

APPENDIX A

STATISTICAL TABLES AND TIME SERIES PLOTS

POND 15S

Waste Management Unit 3

Note:

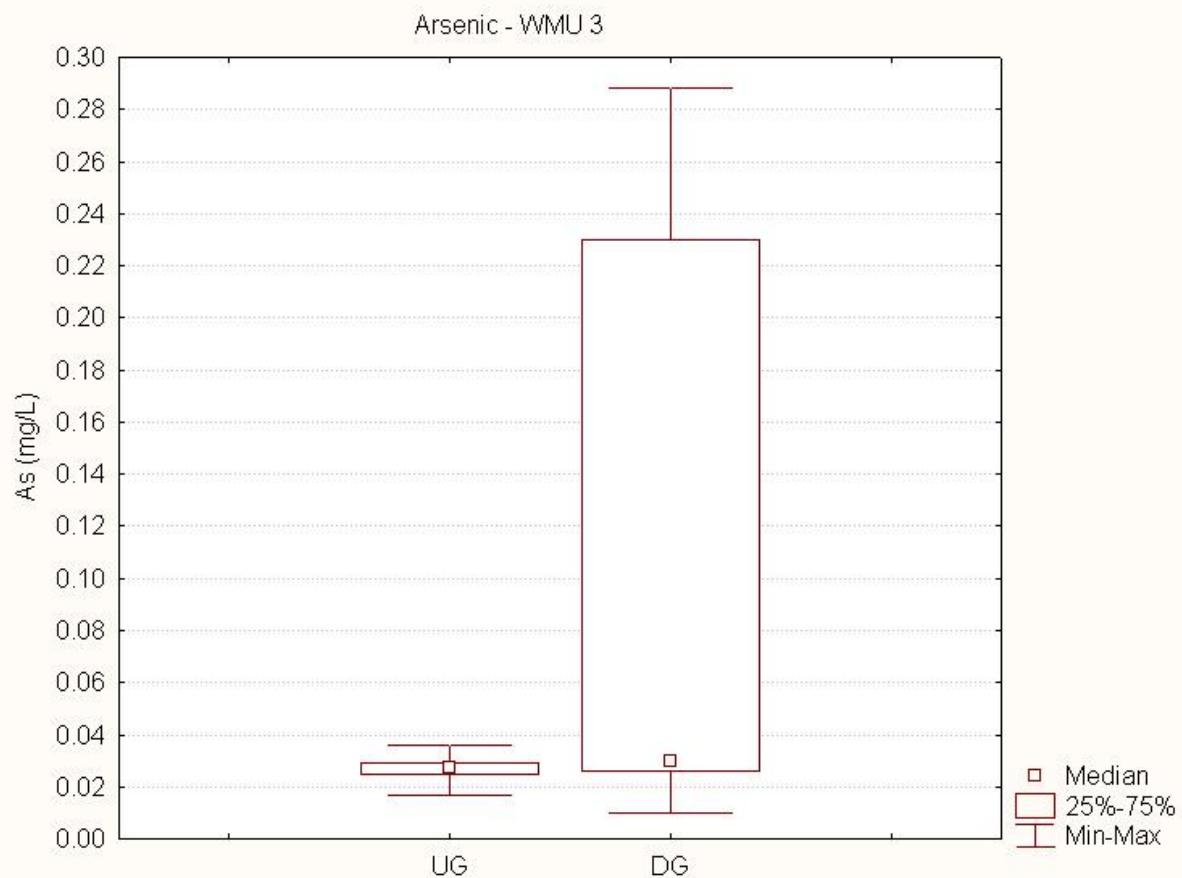
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 3 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	80	0.027	10622.0	7382.0	-4.41	<0.0001
Downgradient	273	0.030	51859.0			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 165</u>	<u>Well 113</u>	<u>Well 115</u>	<u>Well 166</u>
Sep-91	N.S.	0.0366	0.1790	N.S.
Dec-91	N.S.	0.0382	0.1830	N.S.
Mar-92	N.S.	0.0349	0.1900	N.S.
Jun-92	N.S.	0.0308	0.2070	N.S.
Sep-92	N.S.	0.0303	0.1772	N.S.
Dec-92	N.S.	0.0321	0.2023	N.S.
Mar-93	N.S.	0.0394	0.1546	N.S.
Jun-93	N.S.	0.0291	0.2524	N.S.
Sep-93	N.S.	0.0350	0.1875	N.S.
Dec-93	N.S.	0.0276	0.1665	N.S.
Mar-94	N.S.	0.0372	0.2231	N.S.
Jun-94	N.S.	0.0271	0.1314	N.S.
Sep-94	N.S.	0.0198	0.1715	N.S.
Dec-94	N.S.	0.0362	0.2101	N.S.
Mar-95	N.S.	0.0250	0.2204	N.S.
Jun-95	N.S.	0.0257	0.2389	N.S.
Sep-95	0.0165	U	0.2033	0.0244
Dec-95	0.0284	0.0267	0.1756	0.0210
Mar-96	U	0.0281	0.1678	0.0212
Jun-96	0.0270	0.0278	0.1532	0.0235
Sep-96	0.0280	0.0320	0.2000	0.0320
Dec-96	U	U	0.2300	U
Mar-97	0.0290	0.0270	0.2100	0.0280
Jun-97	0.0290	0.0320	0.2300	0.0290
Sep-97	0.0360	0.0350	0.2300	0.0310
Dec-97	0.0310	0.0290	0.2100	0.0270
Feb-98	0.0240	0.0270	0.1900	0.0250
May-98	0.0320	0.0300	0.2300	0.0260
Aug-98	0.0290	0.0270	0.2100	0.0240
Nov-98	0.0280	0.0290	0.2100	0.0220
Feb-99	0.0250	0.0300	0.2000	0.0260
May-99	0.0320	0.0340	0.2400	0.0280
Aug-99	0.0285	0.0281	0.2220	0.0268
Nov-99	0.0320	0.0311	0.2530	0.0294
Mar-00	0.0270	0.0305	0.2480	U
May-00	0.0288	0.0306	0.2330	0.0273
Aug-00	0.0302	0.0286	0.2540	0.0286
Nov-00	0.0305	0.0337	0.2480	0.0264
Feb-01	0.0288	0.0303	0.2460	0.0273
May-01	0.0267	0.0307	0.2630	0.0260
Aug-01	0.0293	0.0275	0.2850	0.0271
Nov-01	0.0284	0.0281	0.2690	0.0228
Mar-02	0.0307	0.0313	0.2720	0.0245
May-02	0.0281	0.0290	0.2740	0.0279
Jul-02	0.0241	0.0316	0.2580	0.0252
Nov-02	0.0299	0.0298	0.2610	0.0267
Mar-03	0.0318	0.0282	0.2740	0.0253
May-03	0.0281	0.0286	0.2770	0.0249

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STATISTICS FOR POND 15S (WMU 3)

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Arsenic

<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 165	Well 113	Well 115	Well 166
Aug-03	0.0253	0.0292	0.2490	0.0245
Nov-03	0.0274	0.0097	0.2670	0.0243
Mar-04	0.0266	0.0316	0.2780	0.0249
May-04	0.0244	0.0303	0.2690	0.0241
Aug-04	0.0258	0.0273	0.2810	0.0247
Nov-04	0.0289	0.0281	0.2800	0.0268
Feb-05	0.0310	0.0327	0.2880	0.0253
May-05	0.0309	0.0317	0.2860	0.0248
Aug-05	0.0264	0.0331	0.2740	0.0241
Nov-05	0.0263	0.0284	0.2700	0.0241
Feb-06	0.0245	0.0295	0.2740	0.0241
May-06	0.0290	0.0282	0.2850	0.0215
Aug-06	0.0305	0.0330	0.2880	0.0278
Nov-06	0.0276	0.0291	0.2800	0.0205
Feb-07	0.0290	0.0275	0.2700	0.0223
May-07	0.0278	0.0266	0.2710	0.0197
Aug-07	0.0231	0.0276	0.2620	0.0228
Nov-07	0.0207	0.0236	0.2380	0.0156
Feb-08	0.0237	0.0283	0.2390	0.0208
May-08	0.0261	0.0211	0.2420	U
Aug-08	0.0245	0.0283	0.2690	0.0218
Nov-08	0.0261	0.0267	0.2510	0.0200
Feb-09	0.0274	0.0271	0.2560	0.0210
May-09	0.0266	0.0245	0.2350	0.0213
Aug-09	0.0281	0.0279	0.2550	0.0199
Nov-09	0.0300	0.0304	0.2630	0.0239
Feb-10	0.0281	0.0296	0.2630	0.0217
Apr-10	0.0295	0.0343	0.2570	0.0247
Jul-10	0.0251	0.0296	0.2640	0.0201
Nov-10	0.0256	0.0266	0.2390	0.0186
Mar-11	0.0234	0.0264	0.2490	0.0188
Apr-11	0.0272	0.0300	0.2480	0.0220
Aug-11	0.0270	0.0310	0.2700	0.0200
Nov-11	0.0280	0.0270	0.2400	0.0180
Feb-12	0.0201	0.0213	0.1870	0.0130
May-12	0.0238	0.0243	0.2200	0.0178
Aug-12	0.0210	0.0250	0.2200	0.0170
Oct-12	0.0250	0.0260	0.2400	0.0180
Feb-13	0.0260	0.0270	0.2300	0.0180
May-13	0.0250	0.0290	0.2500	0.0200
Jul-13	0.0230	0.0290	0.2500	0.0200
Nov-13	0.0280	0.0300	0.2700	0.0200
Feb-14	0.0240	0.0270	0.2400	0.0180
Apr-14	0.0250	0.0270	0.2400	0.0190
Jul-14	0.0230	0.0280	0.2500	0.0190
Nov-14	0.0240	0.0270	0.2300	0.0180
Feb-15	0.0260	0.0280	0.2500	0.0190
May-15	0.0230	0.0270	0.2400	0.0180

TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Arsenic				
<u>Date</u>	Upgradient Well		Downgradient Wells	
	Well 165	Well 113	Well 115	Well 166
	Jul-15 <i>0.0230</i>	0.0260	0.2400	0.0180
Nov-15	0.0260	0.0280	0.2500	0.0190
Test 2 Results				
	Well 165	Well 113	Well 115	Well 166
Pre-2015 Mean	0.0271	0.0291	0.2372	0.0232
2015 Mean	0.0245	0.0273	0.2450	0.0185
1991-2015 Statistical Summary				
Mean	0.0269	0.0290	0.2375	0.0229
Median	0.0271	0.0286	0.2440	0.0235
Standard Deviation	0.0031	0.0040	0.0350	0.0038
Kurtosis	1.0446	5.6671	0.1353	-0.5043
Skewness	-0.3014	-0.8570	-0.8266	-0.0053
Minimum	0.0165	0.0097	0.1314	0.0130
Maximum	0.0360	0.0394	0.2880	0.0320
Count	80	96	98	79

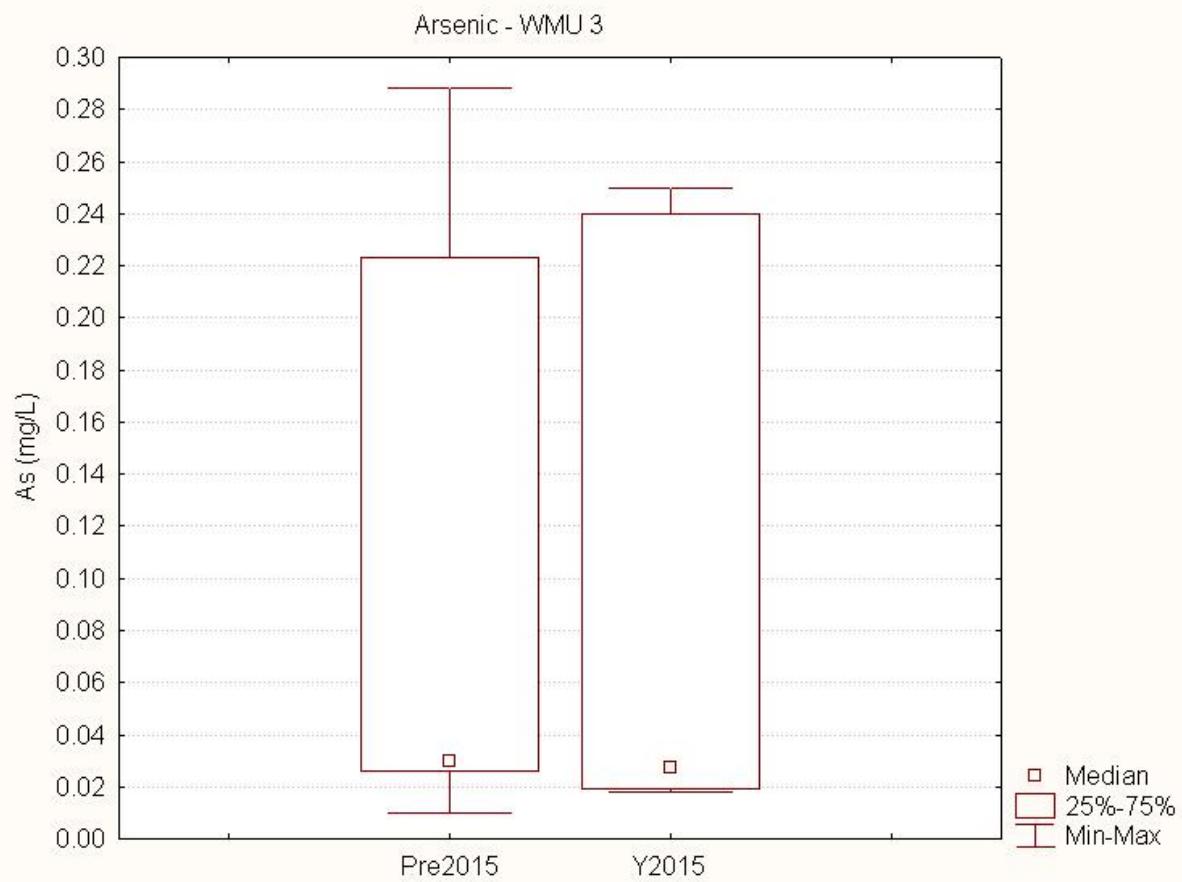
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

WMU 3 TEST 3 ARSENIC

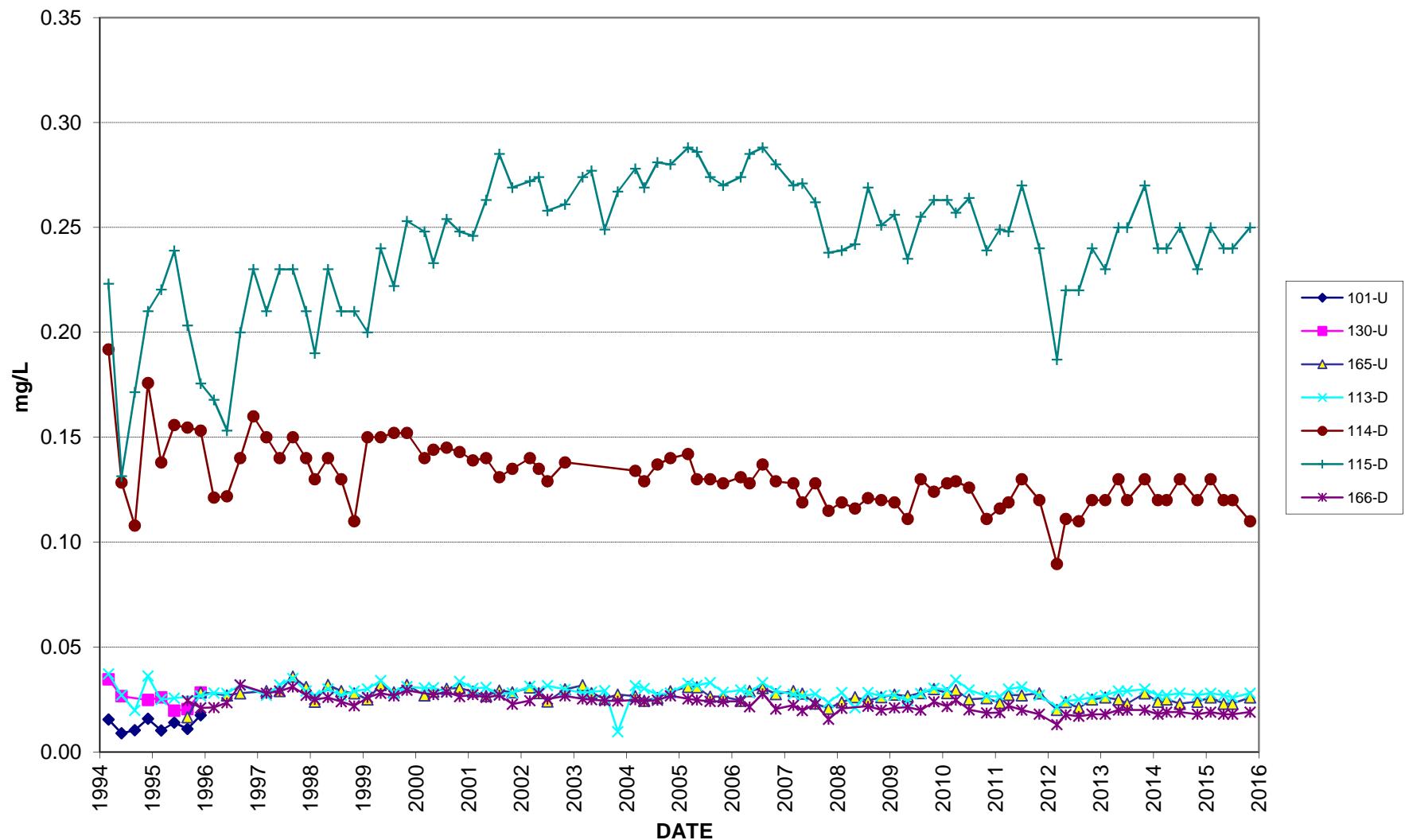
Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Pre-2015	261	0.030	36057.5	1265.5	1.12	0.26
Year 2015						

Summary: For downgradient wells, the median of Pre-2015 arsenic concentration is not significantly different from the median of Year 2015 arsenic concentration.



Arsenic in Groundwater (WMU 3)

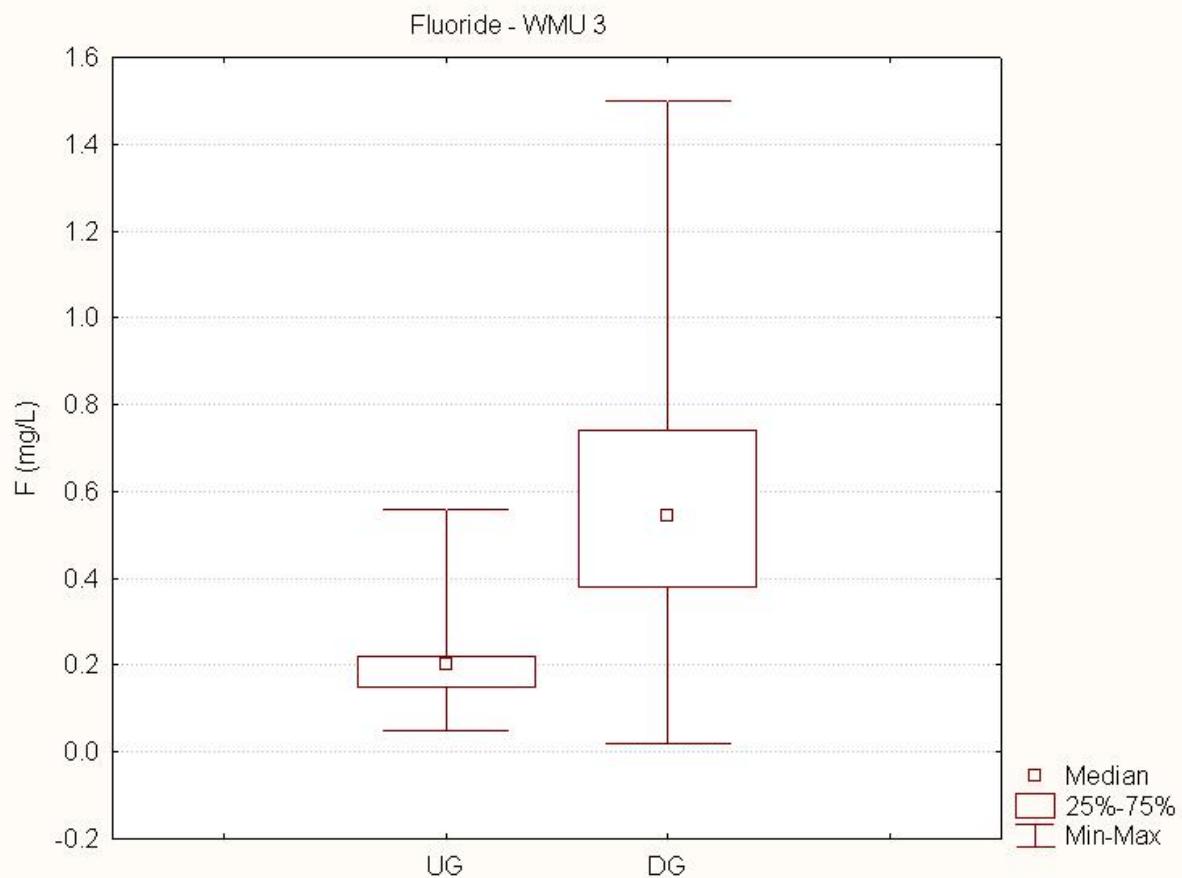


WMU 3 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	73	0.200	4594.5	1893.5	-9.97	<0.0001
Downgradient	230	0.55	41461.5			

Summary: The median fluoride concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Fluoride

<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 165</u>	<u>Well 113</u>	<u>Well 115</u>	<u>Well 166</u>
Sep-91	N.S.	0.800	0.200	N.S.
Dec-91	N.S.	0.960	0.200	N.S.
Mar-92	N.S.	1.000	0.200	N.S.
Jun-92	N.S.	0.772	0.110	N.S.
Sep-92	N.S.	0.770	0.131	N.S.
Dec-92	N.S.	0.800	0.100	N.S.
Mar-93	N.S.	0.800	0.200	N.S.
Jun-93	N.S.	0.800	0.200	N.S.
Sep-93	N.S.	0.800	U	N.S.
Dec-93	N.S.	0.700	U	N.S.
Mar-94	N.S.	0.800	U	N.S.
Jun-94	N.S.	0.760	U	N.S.
Sep-94	N.S.	0.700	U	N.S.
Dec-94	N.S.	0.800	U	N.S.
Mar-95	N.S.	0.764	U	N.S.
Jun-95	N.S.	0.704	U	N.S.
Sep-95	0.300	0.848	U	0.870
Dec-95	0.242	0.612	U	0.802
Mar-96	U	U	U	U
Jun-96	0.242	0.736	0.158	1.030
Sep-96	U	U	U	U
Dec-96	0.160	0.620	0.240	0.780
Mar-97	0.150	0.540	U	0.830
Jun-97	0.150	0.620	U	0.770
Sep-97	U	0.550	U	0.890
Dec-97	U	0.540	U	0.820
Feb-98	0.140	0.560	U	0.950
May-98	0.170	0.530	U	0.930
Aug-98	0.160	0.530	U	0.850
Nov-98	0.170	0.570	U	0.950
Feb-99	0.180	0.540	0.100	1.020
May-99	U	0.500	0.100	0.910
Aug-99	0.100	0.550	U	0.970
Nov-99	U	U	U	U
Mar-00	0.11	0.56	U	0.89
May-00	U	U	U	U
Aug-00	0.12	0.41	U	0.91
Nov-00	0.23	0.52	U	0.9
Feb-01	0.11	0.46	U	0.79
May-01	0.05	0.47	U	0.8
Aug-01	U	0.32	U	0.57
Nov-01	0.19	0.46	U	0.63
Mar-02	0.11	0.44	0.14	0.84
May-02	0.27	0.48	N.S.	0.84
Jul-02	0.09	0.51	N.S.	0.76
Nov-02	0.22	0.68	U	0.98
Mar-03	0.25	0.56	U	0.95
May-03	0.3	0.48	U	0.78
Aug-03	U	0.6	U	0.69

TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Fluoride				
<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 165</u>	<u>Well 113</u>	<u>Well 115</u>	<u>Well 166</u>
Nov-03	0.24	0.51	0.020	0.76
Mar-04	0.22	0.5	0.36	0.79
May-04	0.098	0.48	0.091	0.73
Aug-04	0.1	0.49	0.33	0.74
Nov-04	0.32	0.5	1.100	0.76
Mar-05	0.33	0.5	0.29	0.89
May-05	0.21	0.56	0.31	0.71
Aug-05	0.061	0.61	0.43	0.87
Nov-05	0.2	0.53	0.3	0.73
Feb-06	0.18	0.48	0.3	0.71
May-06	0.17	0.43	0.23	0.66
Aug-06	0.07	0.45	0.27	0.61
Nov-06	0.15	0.42	0.23	0.64
Feb-07	0.2	0.4	0.18	0.56
May-07	0.2	0.42	0.23	0.62
Aug-07	0.1	0.4	0.2	0.5
Nov-07	0.2	0.4	0.2	0.6
Feb-08	0.4	0.6	0.3	0.8
May-08	0.3	0.5	0.3	0.7
Aug-08	0.2	0.5	0.2	0.6
Nov-08	0.2	0.5	0.2	0.6
Feb-09	0.2	0.6	U	0.8
May-09	0.2	0.5	0.2	0.6
Aug-09	0.2	0.6	0.2	0.8
Nov-09	0.3	0.5	0.2	0.7
Feb-10	0.3	0.5	0.2	0.8
Apr-10	0.2	0.6	0.2	0.8
Jul-10	0.17	0.5	0.19	0.56
Nov-10	0.18	0.46	0.11	0.5
Mar-11	0.32	0.47	0.20	0.79
Apr-11	0.26	0.48	0.22	0.69
Aug-11	0.13	0.43	0.23	0.72
Nov-11	0.22	0.56	0.22	0.55
Feb-12	0.56	1.5	U	1.1
May-12	0.16	0.44	U	0.69
Aug-12	0.2	0.44	0.17	0.61
Oct-12	0.16	0.44	0.14	0.65
Feb-13	0.19	0.46	0.14	0.72
May-13	0.19	0.45	0.13	0.7
Jul-13	0.22	0.48	0.18	0.66
Nov-13	0.11	0.29	0.091	0.28
Feb-14	0.2	0.45	0.21	0.69
Apr-14	0.2	0.29	0.029	0.38
Jul-14	0.12	0.33	0.27	0.41
Nov-14	0.19	0.45	0.81	0.68
Feb-15	0.18	0.43	0.75	0.68
May-15	0.20	0.43	U	0.64
Jul-15	0.21	0.45	1.10	0.67
Nov-15	0.18	0.42	0.57	0.67

TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Date	Fluoride			
	Upgradient Well <u>Well 165</u>	Well 113	Downgradient Wells	
		<u>Well 115</u>	<u>Well 166</u>	
Test 2 Results				
	Well 165	Well 113	Well 115	Well 166
Pre-2015 Mean	0.1963	0.5632	0.2276	0.7454
2015 Mean	0.1925	0.4325	0.8067	0.6650
1991-2015 Statistical Summary				
Mean	0.1961	0.5602	0.2571	0.7413
Median	0.2000	0.5000	0.2000	0.7350
Standard Deviation	0.0806	0.1726	0.2123	0.1507
Kurtosis	4.9420	8.6290	8.1951	0.5730
Skewness	1.4411	2.1968	2.7664	-0.2849
Minimum	0.0500	0.2900	0.0200	0.2800
Maximum	0.5600	1.5000	1.1000	1.1000
Count	73	94	58	78

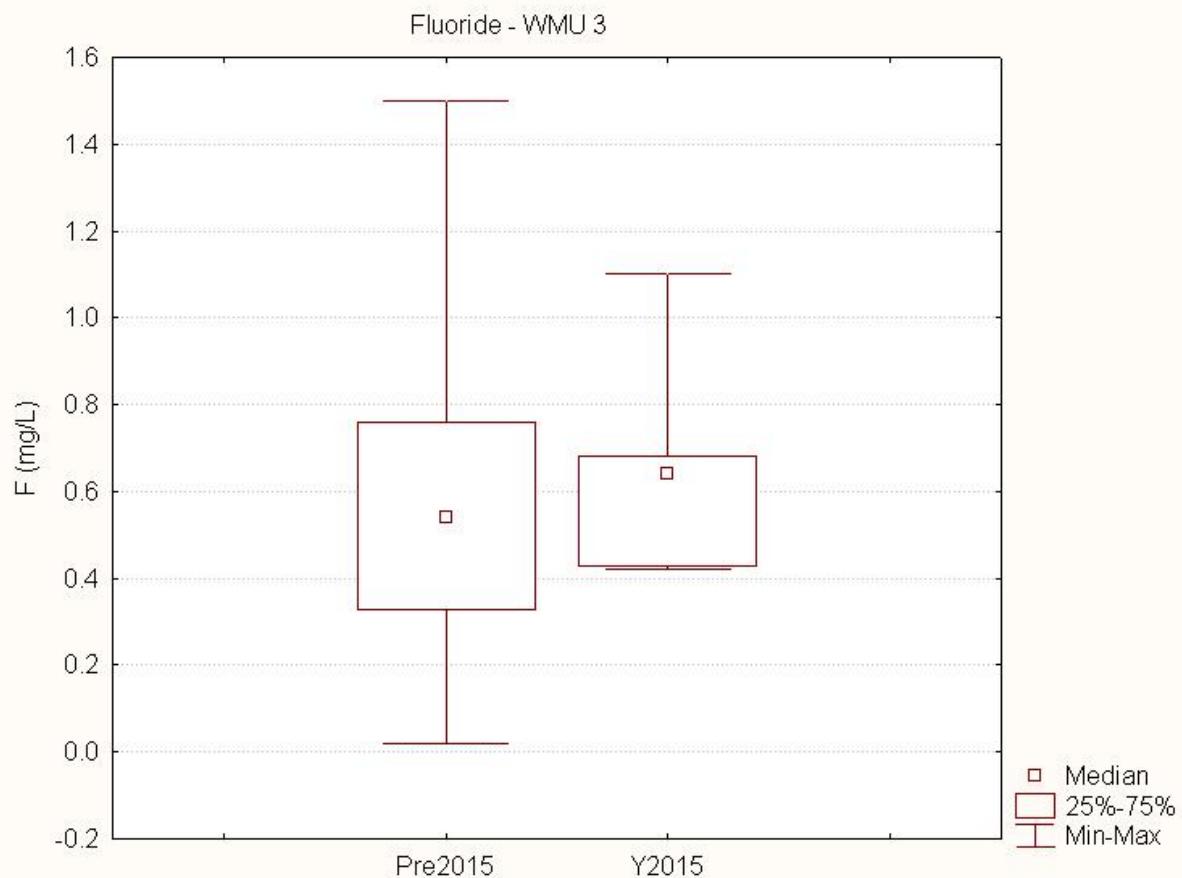
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

WMU 3 TEST 3 FLUORIDE

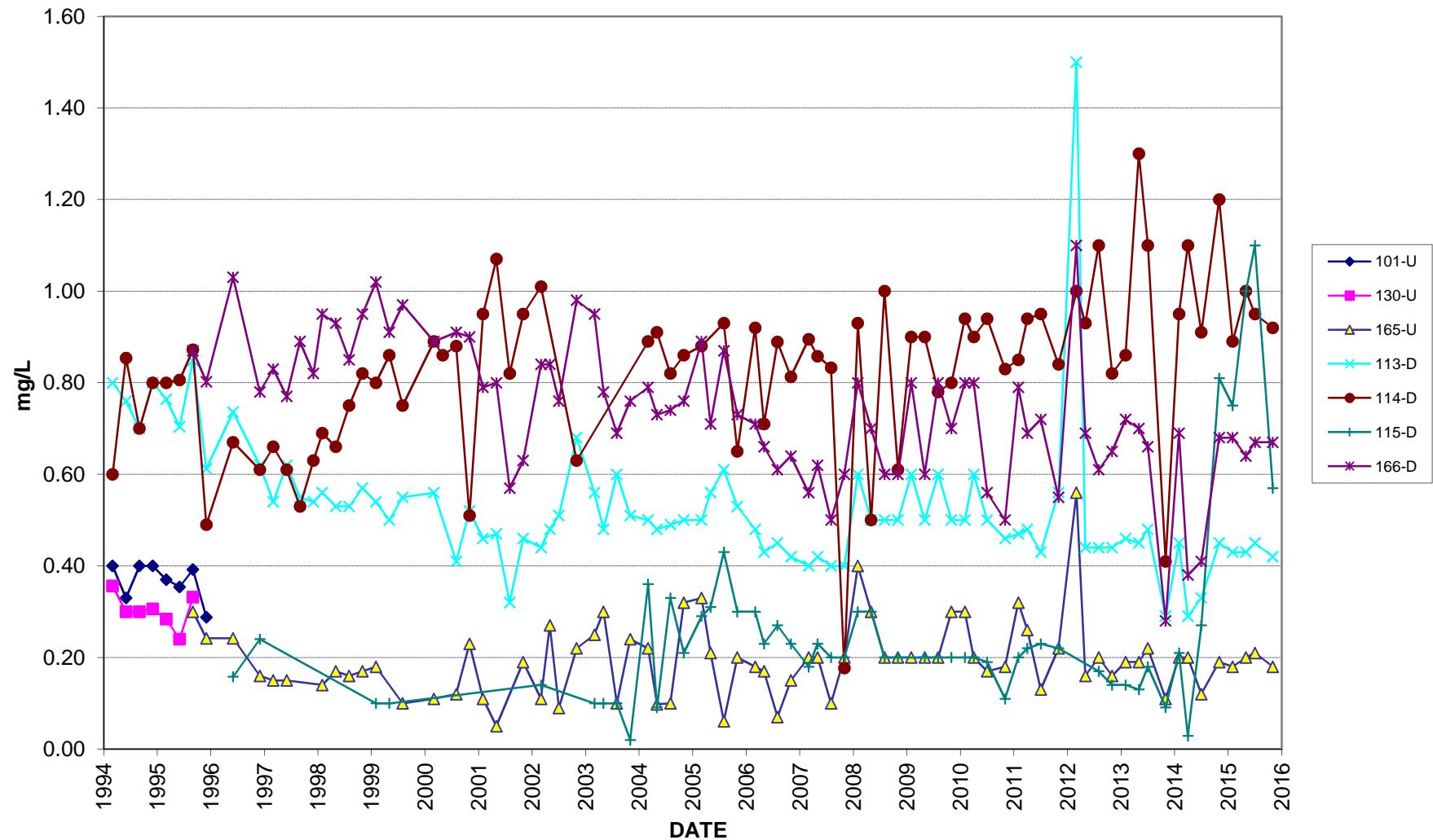
Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Pre-2015	219	0.54	25146.5	1056.5	-0.69	0.49
Year 2015	11	0.64	1418.5			

Summary: For downgradient wells, the median of Pre-2015 fluoride concentration is not significantly different from the median of Year 2015 fluoride concentration.



Fluoride in Groundwater (WMU 3)

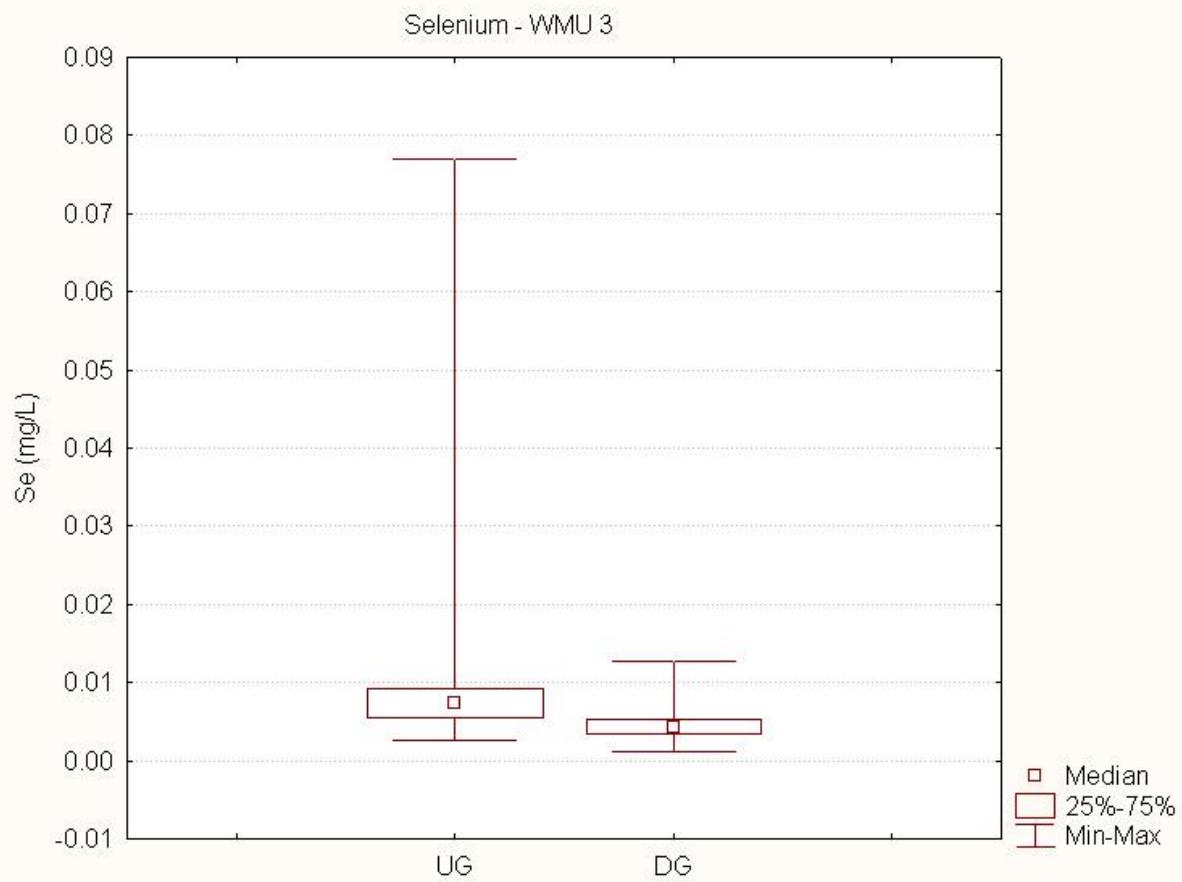


WMU 3 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	69	0.0073	13097.0	1738.0	8.79	<0.0001
Downgradient	180	0.0042	18028.0			

Summary: The median selenium concentration of downgradient (DG) wells is statistically lower than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Selenium

<u>Date</u>	<u>Upgradient Well</u>		<u>Downgradient Wells</u>	
	<u>Well 165</u>	<u>Well 113</u>	<u>Well 115</u>	<u>Well 166</u>
Sep-91	N.S.	0.0020	0.0020	N.S.
Dec-91	N.S.	0.0033	0.0029	N.S.
Mar-92	N.S.	0.0020	0.0020	N.S.
Jun-92	N.S.	U	U	N.S.
Sep-92	N.S.	U	U	N.S.
Dec-92	N.S.	U	0.0079	N.S.
Mar-93	N.S.	0.0047	0.0032	N.S.
Jun-93	N.S.	0.0013	0.0011	N.S.
Sep-93	N.S.	0.0023	0.0033	N.S.
Dec-93	N.S.	U	U	N.S.
Mar-94	N.S.	U	U	N.S.
Jun-94	N.S.	0.0076	U	N.S.
Sep-94	N.S.	U	0.0038	N.S.
Dec-94	N.S.	0.0024	U	N.S.
Mar-95	N.S.	U	U	N.S.
Jun-95	N.S.	U	U	N.S.
Sep-95	0.0094	U	U	0.0084
Dec-95	0.0039	U	0.0033	0.0032
Mar-96	U	U	U	U
Jun-96	U	U	0.0031	U
Sep-96	U	U	U	0.0035
Dec-96	0.0069	0.0036	U	0.0045
Mar-97	0.0068	0.0061	U	0.0077
Jun-97	U	0.0043	U	U
Sep-97	U	U	U	U
Dec-97	0.0056	0.0062	0.0048	0.0046
Feb-98	0.0076	0.0036	0.0034	0.0041
May-98	0.0049	U	0.0036	U
Aug-98	0.0110	U	U	0.0056
Nov-98	0.0094	0.0040	0.0041	0.0049
Feb-99	U	0.0036	U	U
May-99	0.0052	0.0041	0.0034	0.0044
Aug-99	0.0059	0.0060	U	U
Nov-99	0.0084	0.0049	0.0047	0.0066
Mar-00	U	U	U	U
May-00	0.0094	U	U	0.0033
Aug-00	0.0063	0.0037	U	U
Nov-00	0.0056	U	0.0071	0.0051
Feb-01	0.0052	U	U	0.0054
May-01	0.0092	0.0046	0.0050	0.0077
Aug-01	0.0080	U	0.0039	0.0046
Nov-01	0.0082	0.0038	U	U
Mar-02	0.0079	0.0034	U	0.0081
May-02	0.0097	0.0057	U	0.0127
Jul-02	0.0112	0.0047	0.0032	0.0043
Nov-02	0.0069	U	0.0039	0.0052
Mar-03	U	0.0037	U	U
May-03	0.0099	U	0.0032	0.0051
Aug-03	0.0125	0.0046	0.0048	0.0060

TEST 2
STATISTICS FOR POND 15S (WMU 3)

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Selenium

<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 165</u>	<u>Well 113</u>	<u>Well 115</u>	<u>Well 166</u>
Nov-03	0.0076	U	0.0042	0.0067
Mar-04	0.0097	0.0038	0.0033	0.0046
May-04	0.0108	0.0039	0.0037	0.0063
Aug-04	0.0092	U	U	0.0039
Nov-04	0.0073	U	0.0036	0.0039
Mar-05	0.0038	0.0032	U	0.0039
May-05	0.0058	0.0024	0.0027	0.0039
Aug-05	0.0080	U	U	0.0055
Nov-05	0.0048	0.0039	U	0.0079
Feb-06	0.0075	0.0041	0.0045	0.0060
May-06	0.0075	0.0037	U	0.0059
Aug-06	0.0114	0.0066	0.0059	0.0050
Nov-06	0.0055	0.0035	0.0051	0.0051
Feb-07	0.0040	U	U	0.0046
May-07	0.0078	0.0041	0.0052	0.0053
Aug-07	0.0098	0.0030	0.0041	0.0044
Nov-07	0.0053	0.0052	U	0.0051
Feb-08	U	0.0041	0.0041	U
May-08	0.0085	U	U	0.0050
Aug-08	0.0100	U	U	U
Nov-08	0.0070	U	U	0.0055
Feb-09	0.0099	0.0080	U	0.0077
May-09	0.0056	U	0.0047	0.0054
Aug-09	0.0072	U	0.0070	0.0051
Nov-09	U	U	U	U
Feb-10	U	U	U	0.0063
Apr-10	0.0047	U	U	U
Jul-10	0.0122	0.0042	U	0.0052
Nov-10	0.0072	U	U	U
Mar-11	U	U	U	0.0067
Apr-11	0.0053	0.0043	U	0.0042
Aug-11	0.0091	0.0047	0.0045	0.0059
Nov-11	U	0.0061	0.0053	0.0080
Feb-12	0.0027	0.0019	0.0019	0.0025
May-12	0.0058	0.0025	0.0027	0.0039
Aug-12	0.0084	0.0033	0.0029	0.0048
Oct-12	0.0049	0.0038	0.0029	0.0063
Feb-13	0.0050	0.0032	0.0033	0.0046
May-13	0.0770	0.0037	0.0033	0.0049
Jul-13	0.0090	0.0038	0.0036	0.0062
Nov-13	0.0057	0.0037	0.0042	0.0059
Feb-14	0.0049	0.0033	0.0029	0.0050
Apr-14	0.0056	0.0045	0.0036	0.0048
Jul-14	0.0098	0.0037	0.0038	0.0065
Nov-14	0.0049	0.0033	0.0034	0.0053
Feb-15	0.0053	0.0035	0.0038	0.0058
May-15	0.0085	0.0037	0.0041	0.0060
Jul-15	0.0064	0.0034	0.0038	0.0057
Nov-15	0.0049	0.0034	0.0037	0.0057

TEST 2
STATISTICS FOR POND 15S (WMU 3)

Page 3 of 3

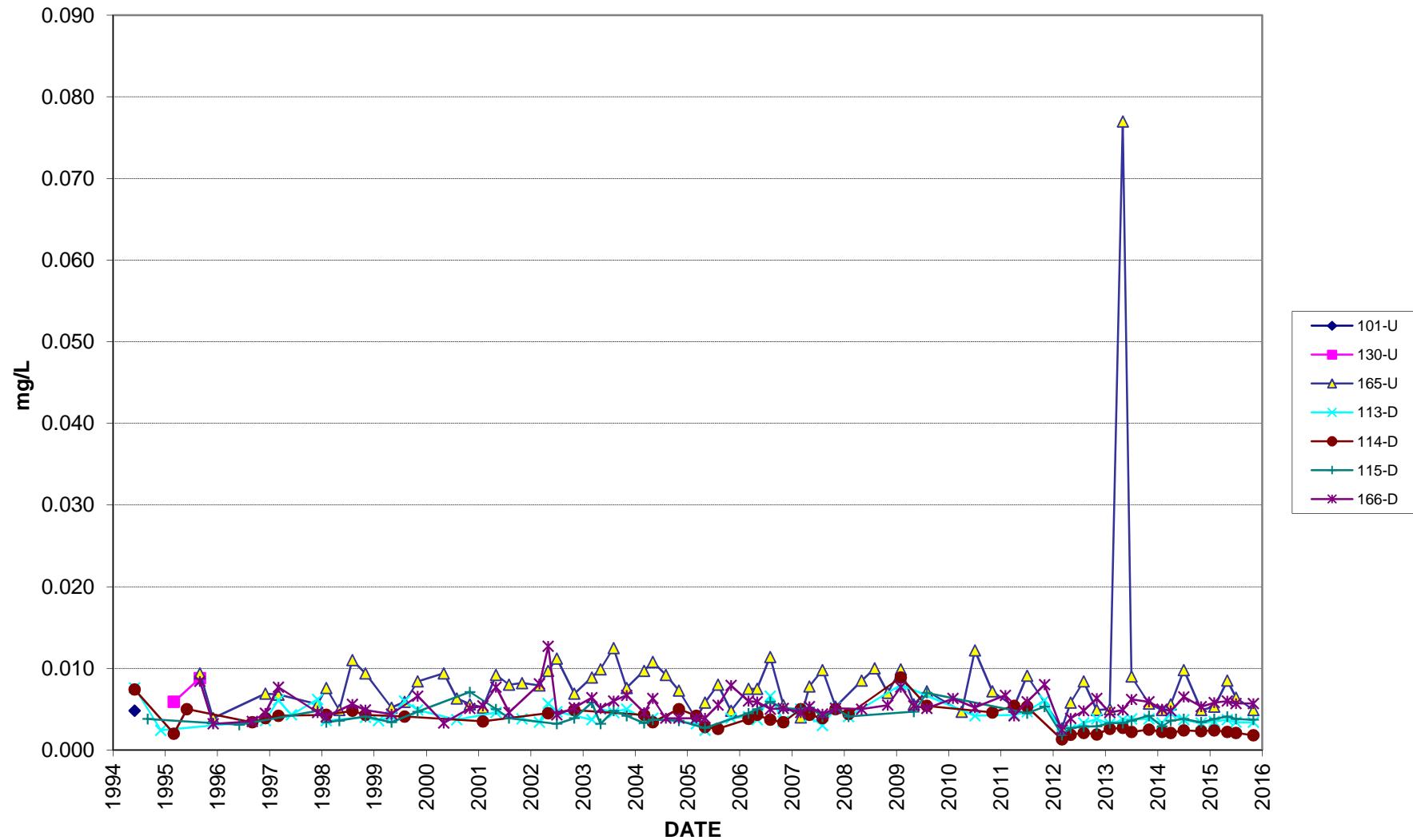
<u>Date</u>	Selenium			
	Upgradient Well Well 165	Downgradient Wells	Well 113	Well 115
Test 2 Results				
	Well 165	Well 113	Well 115	Well 166
Pre-2015 Mean	0.0085	0.0040	0.0039	0.0055
2015 Mean	0.0063	0.0035	0.0039	0.0058
1991-2015 Statistical Summary				
Mean	0.0084	0.0040	0.0039	0.0055
Median	0.0073	0.0038	0.0037	0.0052
Standard Deviation	0.0087	0.0013	0.0012	0.0015
Kurtosis	59.7844	1.5556	2.2417	6.3289
Skewness	7.4767	0.8934	0.9865	1.7142
Minimum	0.0027	0.0013	0.0011	0.0025
Maximum	0.0770	0.0080	0.0079	0.0127
Count	69	60	54	66

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Selenium in Groundwater (WMU 3)



SLAG PIT WASTE WATER COLLECTION SUMP

Waste Management Unit 5

Note:

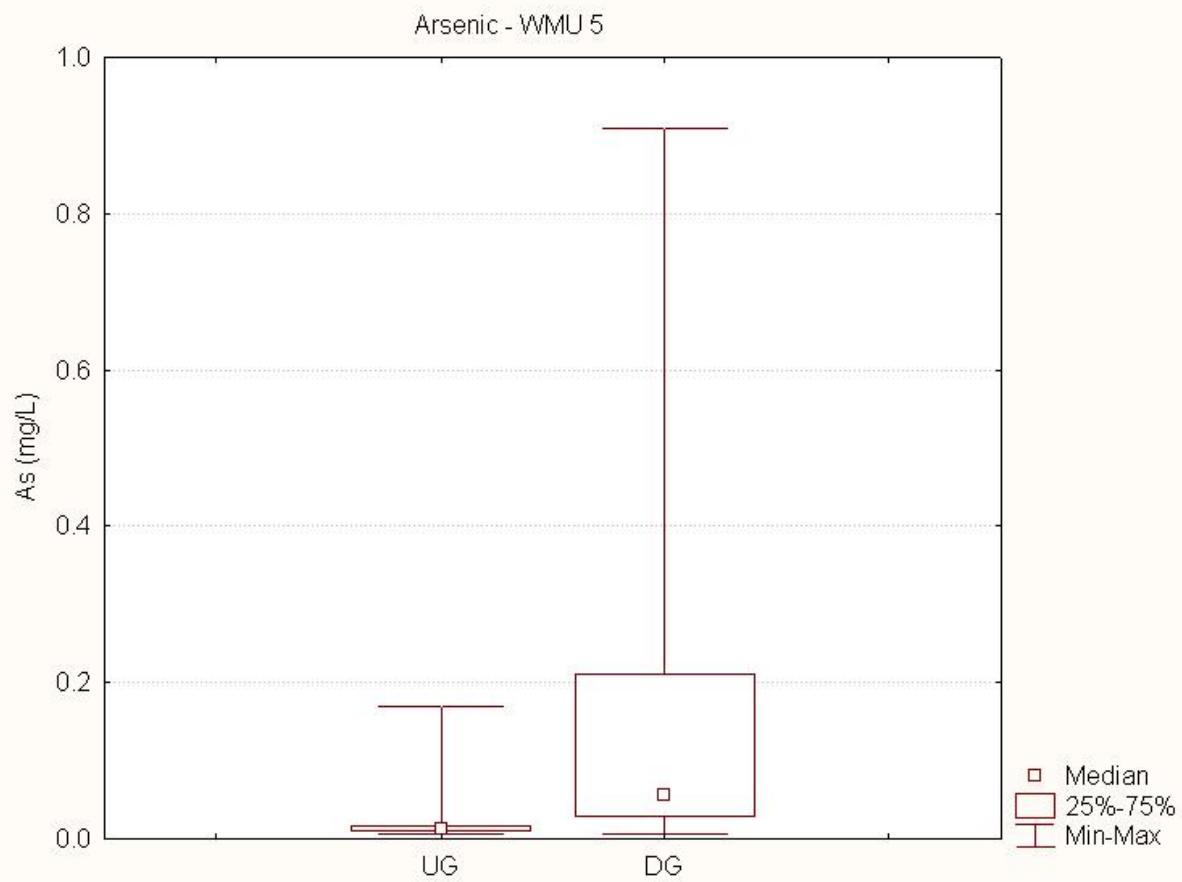
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 5 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	P
Upgradient	95	0.012	5653.0	1093.0	-13.50	<0.0001
Downgradient	293	0.056	69813.0			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 1 of 3

Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Well 108</u>	<u>Downgradient Wells</u>	
	<u>Well 121</u>		<u>Well 122</u>	<u>Well 123</u>
Sep-91	0.014	0.034	0.068	0.753
Dec-91	0.015	0.033	0.058	0.536
Mar-92	0.013	0.033	0.080	0.541
Jun-92	U	U	0.098	0.909
Sep-92	0.170	0.028	0.031	0.574
Dec-92	0.022	0.025	0.072	0.593
Mar-93	0.021	0.043	0.073	0.470
Jun-93	0.020	0.042	0.052	0.449
Sep-93	0.021	0.046	0.032	0.056
Dec-93	0.010	0.028	0.058	0.481
Mar-94	0.013	0.033	0.064	0.474
Jun-94	0.020	0.033	0.019	0.007
Sep-94	0.018	0.041	0.039	0.408
Dec-94	0.020	0.043	0.061	0.499
Mar-95	0.021	0.044	0.037	0.485
Jun-95	0.019	0.050	0.023	0.644
Sep-95	0.020	0.047	0.034	0.385
Dec-95	0.029	0.065	0.041	0.505
Mar-96	0.018	0.038	0.037	0.408
Jun-96	0.017	0.033	0.037	0.414
Sep-96	0.021	0.049	0.054	0.530
Dec-96	0.017	0.046	0.055	0.510
Mar-97	0.016	0.045	0.045	0.430
Jun-97	0.014	0.047	0.044	0.430
Sep-97	0.014	0.028	0.040	0.400
Dec-97	U	0.038	0.044	0.410
Feb-98	0.022	0.044	0.047	0.400
May-98	0.022	0.043	0.045	0.380
Aug-98	0.019	0.034	0.042	0.380
Nov-98	0.015	0.030	0.040	0.400
Feb-99	0.019	0.029	0.041	0.350
May-99	0.022	0.032	0.040	0.360
Aug-99	0.0325	0.0307	0.0437	0.390
Nov-99	0.0206	0.0258	0.0399	0.366
Mar-00	0.0197	0.0217	0.045	0.35
May-00	0.0137	0.0184	0.0448	0.333
Aug-00	0.0185	0.0224	0.0479	0.34
Nov-00	0.0141	0.0209	0.0495	0.332
Mar-01	0.0168	0.0187	0.0493	0.303
May-01	0.0148	0.0185	0.0503	0.305
Aug-01	0.0136	0.0171	0.0503	0.286
Nov-01	0.0166	0.0187	0.0614	0.314
Mar-02	0.0125	0.0225	0.0583	0.302
May-02	0.0137	0.0236	0.0606	0.292
Jul-02	0.0134	0.0225	0.0543	0.266
Nov-02	0.0126	0.0234	0.0603	0.298
Mar-03	0.0123	0.0258	0.0612	0.291
May-03	0.0126	0.0259	0.0608	0.306
Aug-03	0.0099	0.0218	0.0576	0.266

TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 2 of 3

Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Well 108</u>	<u>Downgradient Wells</u>	
	<u>Well 121</u>		<u>Well 122</u>	<u>Well 123</u>
Nov-03	0.0096	0.0212	0.0595	0.279
Mar-04	0.0136	0.0227	0.0607	0.27
May-04	0.011	0.0212	0.0604	0.262
Aug-04	0.0087	0.0215	0.0589	0.263
Nov-04	0.0113	0.022	0.0654	0.293
Mar-05	0.0114	0.0231	0.0646	0.29
May-05	0.0104	0.0174	0.0612	0.271
Aug-05	0.0124	0.0208	0.058	0.265
Nov-05	0.011	0.0194	0.0631	0.247
Feb-06	0.0094	0.0266	0.0606	0.272
May-06	0.0101	0.0202	0.0594	0.269
Aug-06	0.0141	0.0242	0.0675	0.277
Nov-06	0.0104	0.02	0.0628	0.26
Feb-07	0.0093	0.0192	0.0594	0.245
May-07	0.0101	0.0172	0.0617	0.254
Aug-07	0.0095	0.0183	0.0622	0.238
Nov-07	0.0066	0.014	0.0545	0.212
Feb-08	0.0077	0.0193	0.0565	0.224
May-08	U	0.0186	0.0635	0.244
Aug-08	0.0094	0.0193	0.062	0.223
Nov-08	0.0104	0.0184	0.0612	0.216
Feb-09	0.0111	0.0202	0.0577	0.207
May-09	0.0089	0.0167	0.0557	0.205
Aug-09	0.0116	0.0203	0.0633	0.237
Nov-09	0.0095	0.0195	0.0597	0.208
Feb-10	0.0088	0.0215	0.0574	0.224
Apr-10	0.0129	0.0234	0.0628	0.228
Jul-10	0.0105	0.0202	0.0617	0.218
Nov-10	0.0086	0.0209	0.0558	0.201
Feb-11	0.0099	0.0188	0.0595	0.200
Apr-11	0.0107	0.0220	0.0562	0.198
Jul-11	0.0110	0.0210	0.0620	0.210
Nov-11	0.0100	0.0200	0.0570	0.200
Feb-12	0.0069	0.0138	0.0426	0.131
May-12	0.0085	0.0174	0.0494	0.191
Aug-12	0.0087	0.0180	0.0520	0.180
Nov-12	0.0074	0.0170	0.0520	0.200
Feb-13	0.0078	0.0180	0.0540	0.200
May-13	0.0110	0.0210	0.0590	0.210
Jul-13	0.0089	0.0190	0.0590	0.190
Nov-13	0.0110	0.0200	0.0600	0.210
Feb-14	0.0088	0.0210	0.0550	0.190
May-14	0.0095	0.0200	0.0510	0.180
Jul-14	0.0098	0.0210	0.0580	0.200
Nov-14	0.0091	0.0190	0.0500	0.180
Feb-15	0.0097	0.0220	0.0560	0.190
May-15	0.0089	0.0180	0.0510	0.180
Jul-15	0.0088	0.0210	0.0500	0.170

TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

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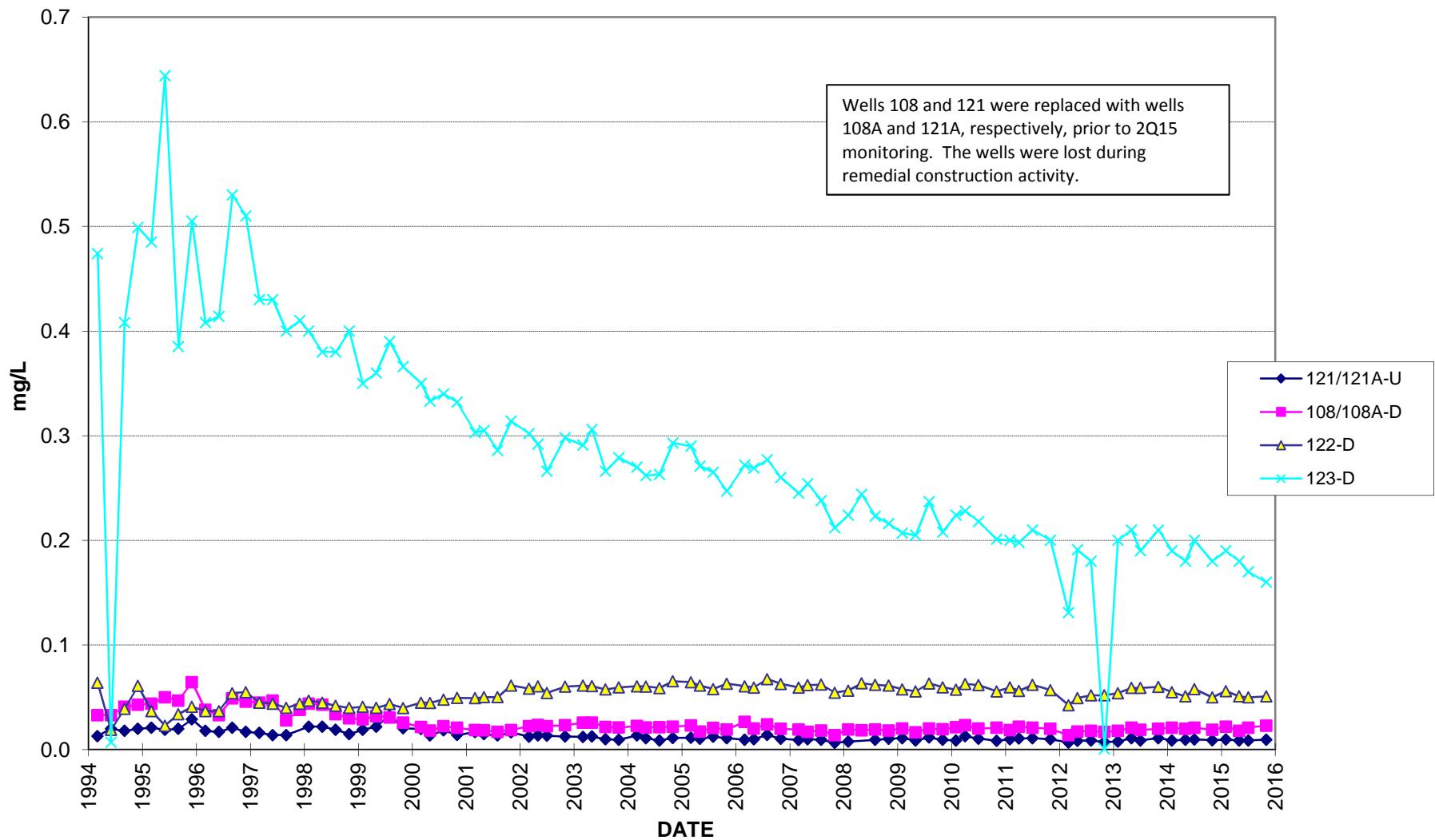
Arsenic				
<u>Date</u>	Upgradient Well	Downgradient Wells		
	<u>Well 121</u> 0.0096	Well 108 0.0230	<u>Well 122</u> 0.0510	<u>Well 123</u> 0.160
Test 2 Results				
	Well 121	Well 108	Well 122	Well 123
Pre-2015 Mean	0.0155	0.0266	0.0540	0.3200
2015 Mean	0.0093	0.0210	0.0520	0.1750
1991-2015 Statistical Summary				
Mean	0.015	0.026	0.054	0.314
Median	0.012	0.022	0.056	0.275
Standard Deviation	0.017	0.010	0.011	0.142
Kurtosis	78.38	1.45	2.29	2.91
Skewness	8.482	1.397	-0.070	1.299
Minimum	0.007	0.014	0.019	0.007
Maximum	0.170	0.065	0.098	0.909
Count	95	97	98	98

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Arsenic in Groundwater (WMU 5)

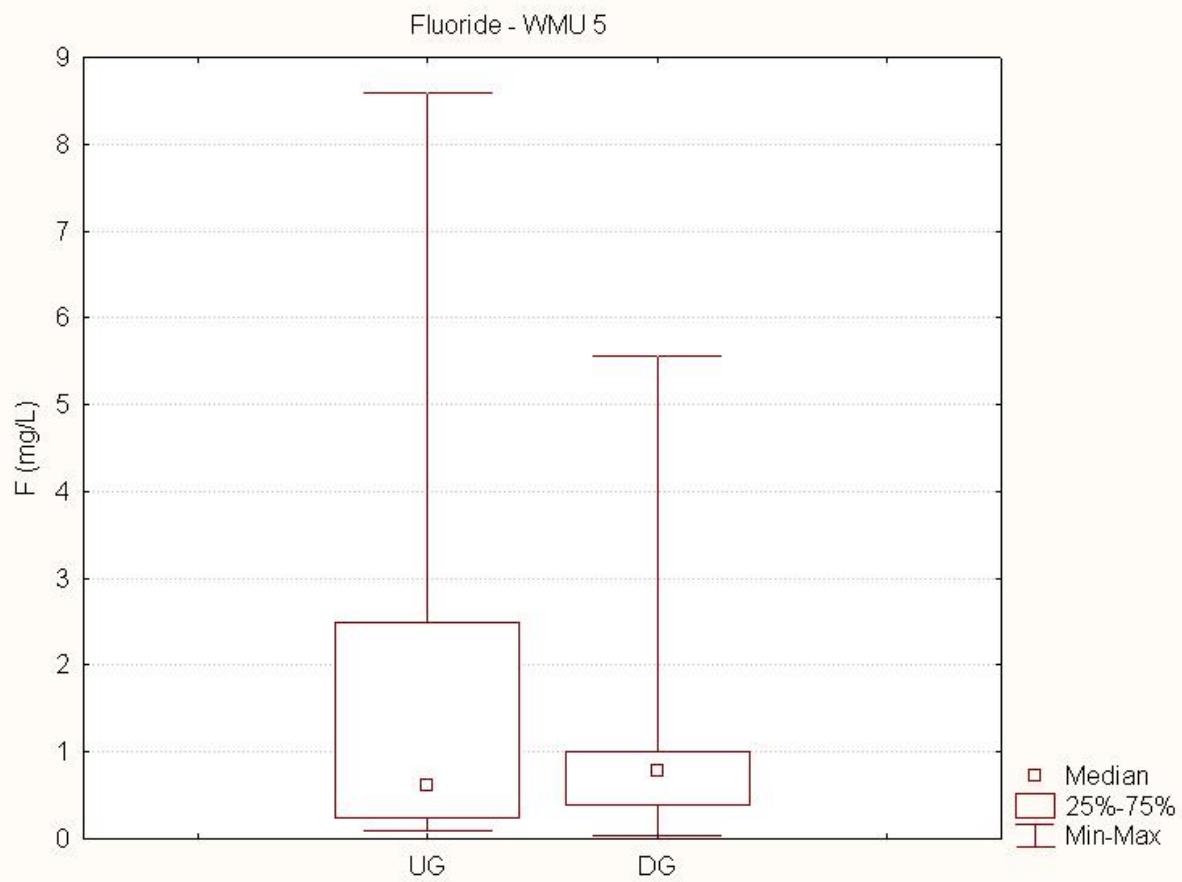


WMU 5 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	96	0.62	18140.0	10900.0	1.53	0.13
Downgradient	254	0.78	43285.0			

Summary: The median fluoride concentration of downgradient (DG) wells is not statistically different from the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 1 of 3

Fluoride

Upgradient Well	Well 121	Well 108	Downgradient Wells	
Date			Well 122	Well 123
Sep-91	1.40	3.00	0.20	0.70
Dec-91	1.51	3.25	0.20	0.79
Mar-92	1.02	3.12	0.20	0.97
Jun-92	1.23	2.53	U	0.62
Sep-92	1.21	2.66	U	0.61
Dec-92	1.40	2.50	U	0.70
Mar-93	2.00	2.00	U	0.70
Jun-93	4.50	1.10	1.10	0.70
Sep-93	4.10	2.00	0.20	0.60
Dec-93	2.40	3.30	U	0.90
Mar-94	3.00	2.40	U	0.80
Jun-94	6.10	2.42	2.20	0.90
Sep-94	4.70	3.00	0.50	1.10
Dec-94	3.96	2.70	U	0.80
Mar-95	7.30	1.80	0.50	0.81
Jun-95	8.60	0.70	3.10	0.80
Sep-95	4.58	0.65	1.27	0.93
Dec-95	2.60	0.68	1.07	0.65
Mar-96	3.22	5.56	U	U
Jun-96	3.84	5.26	1.56	0.72
Sep-96	3.00	U	U	U
Dec-96	3.45	1.52	0.15	0.81
Mar-97	3.70	1.21	0.27	0.54
Jun-97	3.42	1.44	0.54	0.56
Sep-97	1.68	1.01	U	0.52
Dec-97	1.36	0.57	U	0.57
Feb-98	3.13	0.47	U	0.57
May-98	2.10	0.83	U	0.58
Aug-98	2.15	0.87	U	0.55
Nov-98	1.62	0.68	U	0.63
Feb-99	1.81	0.76	U	0.67
May-99	2.00	0.87	U	1.40
Aug-99	6.70	1.70	U	0.69
Nov-99	U	U	U	U
Mar-00	4.8	3.2	U	0.69
May-00	4.6	2.4	U	0.36
Aug-00	4.9	2.3	0.11	0.78
Nov-00	4.1	2	U	0.78
Mar-01	3	2.3	U	0.57
May-01	2.6	1.9	0.06	0.67
Aug-01	1.4	0.89	U	0.47
Nov-01	1.4	1.6	0.07	0.77
Mar-02	0.99	0.94	0.13	0.83
May-02	1.1	0.91	U	0.82
Jul-02	1	1.1	0.11	0.81
Nov-02	0.83	0.96	U	0.95
Mar-03	0.68	0.94	U	1
May-03	0.67	1	0.11	0.79
Aug-03	0.58	1.1	U	0.99

TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 2 of 3

Fluoride

Upgradient Well	Well 121	Well 108	Downgradient Wells	
Date			Well 122	Well 123
Nov-03	0.48	0.9	0.14	0.8
Mar-04	0.43	0.98	0.12	1.1
May-04	0.43	1	0.14	0.97
Aug-04	0.49	1.1	0.13	1
Nov-04	0.5	1.1	U	1.1
Mar-05	0.64	1.2	0.15	1.5
May-05	0.5	1.2	0.11	1.3
Aug-05	0.38	1.2	0.13	1.7
Nov-05	0.31	0.75	0.11	1.3
Feb-06	0.34	0.81	0.13	0.58
May-06	0.47	0.86	0.09	1.2
Aug-06	0.44	0.51	0.12	1.1
Nov-06	0.47	0.85	0.15	0.87
Feb-07	0.21	0.6	0.069	0.97
May-07	0.2	0.9	0.1	0.9
Aug-07	0.2	0.8	0.1	1.1
Nov-07	0.1	0.7	0.1	0.8
Feb-08	0.2	0.6	0.2	1
May-08	0.6	1	0.2	1.2
Aug-08	0.3	0.7	0.1	1.1
Nov-08	0.1	0.6	0.1	0.9
Feb-09	0.3	0.8	U	1.1
May-09	0.1	0.4	0.1	0.7
Aug-09	0.3	0.5	0.1	0.9
Nov-09	0.6	0.6	0.3	1.2
Feb-10	0.4	0.7	0.2	1.2
Apr-10	0.3	0.6	0.1	1.4
Jul-10	0.39	0.52	0.075	0.89
Nov-10	0.23	0.48	0.12	1.1
Feb-11	0.14	0.65	0.10	1.30
Apr-11	0.22	0.47	0.08	0.83
Jul-11	0.28	0.28	0.12	0.93
Nov-11	0.24	0.27	0.13	0.89
Feb-12	U	U	U	2.10
May-12	0.29	0.49	U	1.00
Aug-12	0.19	0.43	0.07	1.00
Nov-12	0.16	0.44	0.04	1.00
Feb-13	0.18	0.46	0.05	1.00
May-13	0.19	0.42	0.04	0.97
Jul-13	0.16	0.44	0.07	1.00
Nov-13	0.12	0.31	U	0.59
Feb-14	0.16	0.36	0.0690	0.930
May-14	0.15	0.40	0.0630	1.000
Jul-14	0.10	0.25	U	0.770
Nov-14	0.14	0.36	0.0630	0.940
Feb-15	0.16	0.35	0.0630	0.940
May-15	0.18	0.52	0.0600	0.980
Jul-15	0.16	0.47	0.0660	0.950
Nov-15	0.16	0.42	0.0740	0.930

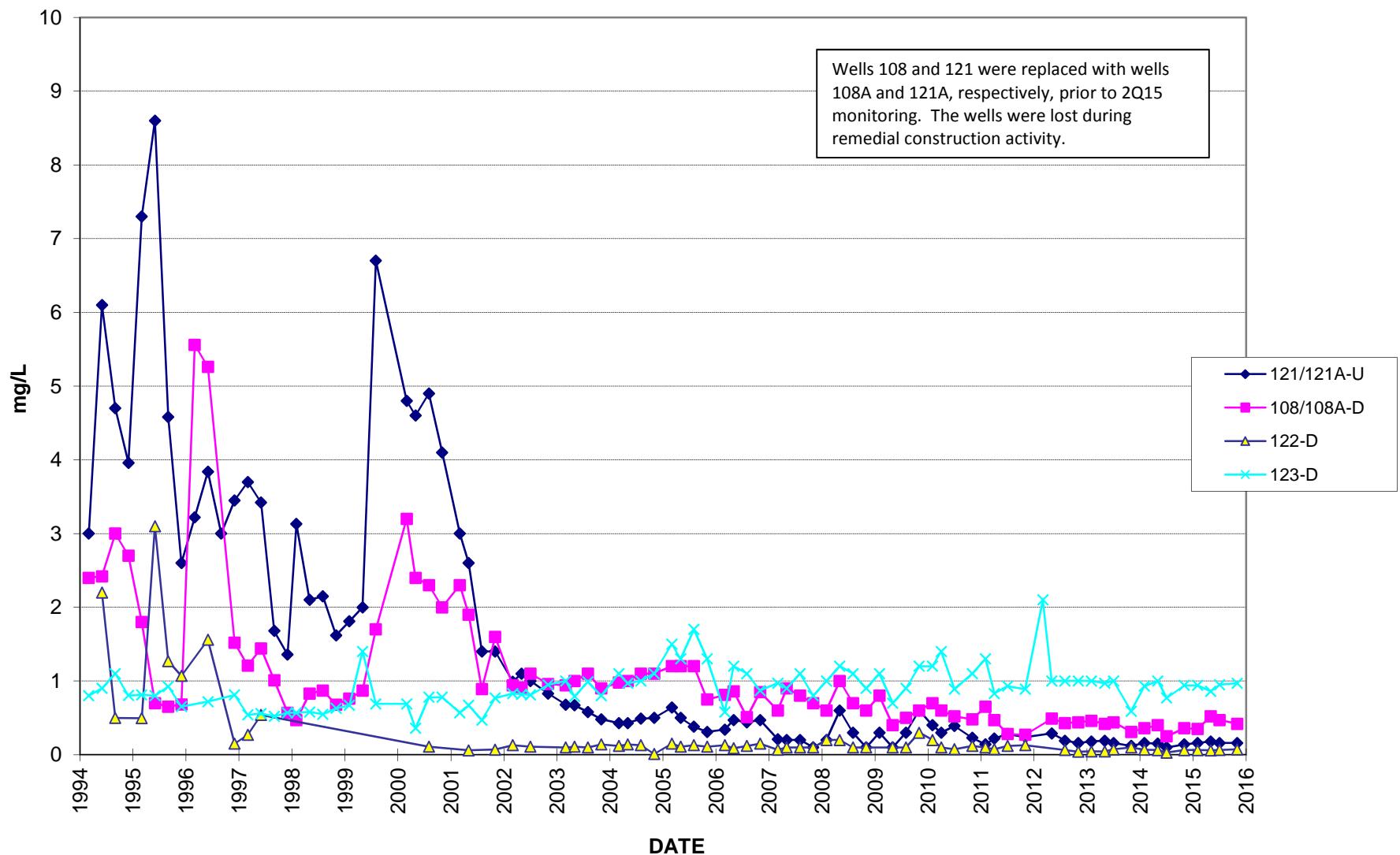
TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

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Fluoride				
<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 121</u>	<u>Well 108</u>	<u>Well 122</u>	<u>Well 123</u>
Test 2 Results				
	Well 121	Well 108	Well 122	Well 123
Pre-2015 Mean	1.6366	1.2648	0.3004	0.8946
2015 Mean	0.1650	0.4400	0.0658	0.9500
1991-2015 Statistical Summary				
Mean	1.575	1.230	0.286	0.897
Median	0.620	0.870	0.115	0.900
Standard Deviation	1.842	1.019	0.525	0.270
Kurtosis	2.30	4.63	15.44	3.73
Skewness	1.603	1.970	3.752	1.276
Minimum	0.100	0.250	0.042	0.360
Maximum	8.600	5.560	3.100	2.100
Count	96	95	64	95

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Fluoride in Groundwater (WMU 5)

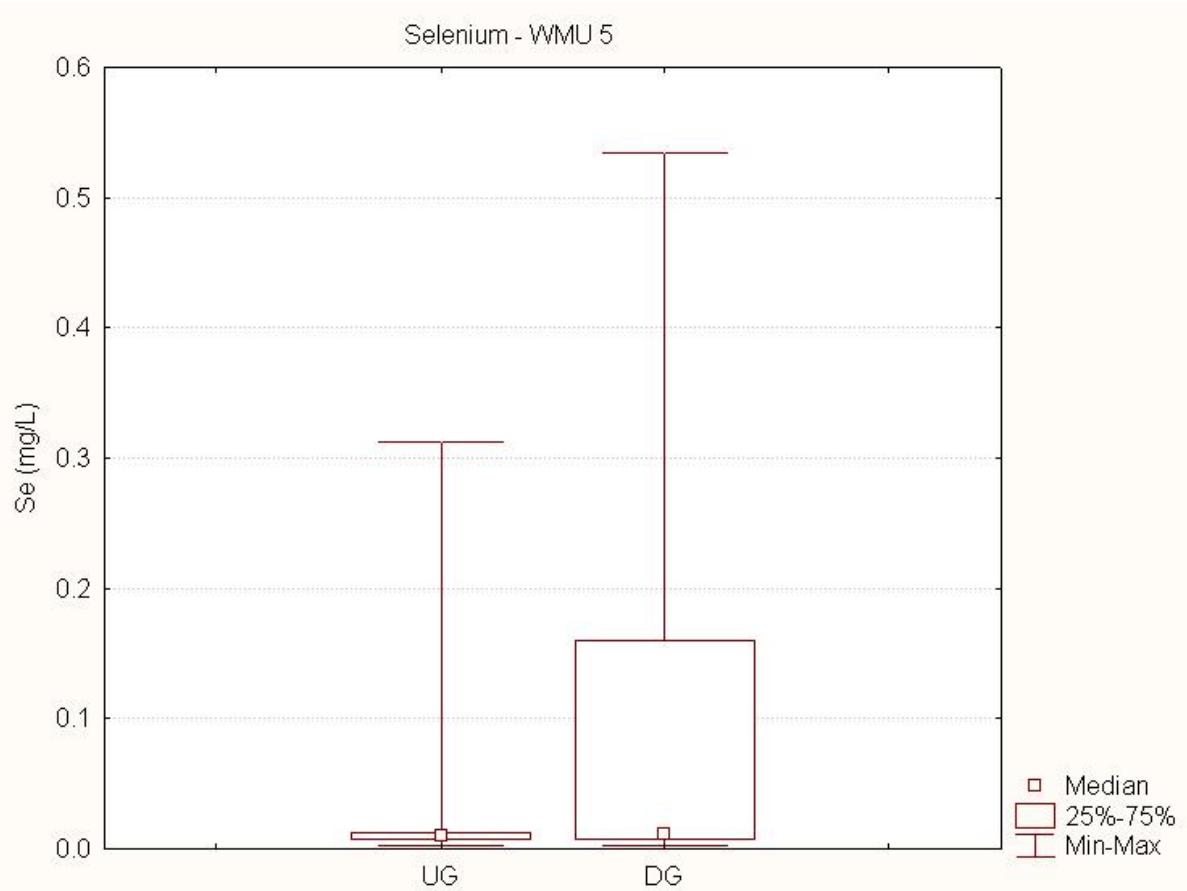


WMU 5 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	89	0.010	12864.5	8859.5	-2.76	0.006
Downgradient	248	0.011	44088.5			

Summary: The median selenium concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

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Selenium

<u>Date</u>	<u>Upgradient Well Well 121/121A</u>	<u>Well 108/108A</u>	<u>Downgradient Wells</u>	
			<u>Well 122</u>	<u>Well 123</u>
Sep-91	0.006	0.004	0.002	0.332
Dec-91	0.002	0.002	0.002	0.311
Mar-92	0.006	0.002	0.004	0.277
Jun-92	0.013	0.008	0.006	0.534
Sep-92	U	0.002	U	0.200
Dec-92	0.312	0.006	0.002	0.412
Mar-93	0.008	0.005	0.003	0.290
Jun-93	0.007	0.004	0.002	0.277
Sep-93	0.006	0.007	U	0.026
Dec-93	U	U	U	0.291
Mar-94	U	U	U	0.248
Jun-94	U	U	U	U
Sep-94	0.006	U	U	0.224
Dec-94	0.025	0.005	U	0.305
Mar-95	U	U	U	0.209
Jun-95	0.004	U	U	0.258
Sep-95	0.012	0.006	0.007	0.214
Dec-95	0.005	0.004	U	0.225
Mar-96	0.007	U	U	0.186
Jun-96	0.005	U	U	0.213
Sep-96	0.007	0.005	U	0.280
Dec-96	0.007	0.005	U	0.270
Mar-97	0.010	U	U	0.230
Jun-97	0.008	U	U	0.220
Sep-97	0.008	U	U	0.230
Dec-97	0.010	0.005	U	0.220
Feb-98	0.011	0.0059	0.0049	0.24
May-98	0.0098	U	U	0.22
Aug-98	0.012	U	U	0.2
Nov-98	0.0077	0.016	0.0077	0.23
Feb-99	U	U	U	0.2
May-99	U	U	U	0.21
Aug-99	0.0092	0.0056	0.0064	0.224
Nov-99	0.0104	0.0086	0.0061	0.209
Mar-00	U	U	U	0.211
May-00	0.0058	0.0057	U	0.202
Aug-00	0.0091	0.007	U	0.204
Nov-00	0.0047	0.0067	U	0.203
Mar-01	0.0065	0.007	0.0044	0.188
May-01	0.0077	0.0062	0.0045	0.193
Aug-01	0.0058	0.0049	U	0.175
Nov-01	0.0082	0.0056	0.0041	0.196
Mar-02	0.0054	0.0058	0.0061	0.184
May-02	0.0082	0.0073	0.0055	0.181
Jul-02	0.0056	0.0062	0.0053	0.167
Nov-02	0.0073	0.0067	0.008	0.189
Mar-03	U	U	U	0.185
May-03	0.0074	0.0076	0.0101	0.191
Aug-03	0.0072	0.0077	0.0079	0.159

TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 2 of 3

Selenium

<u>Date</u>	<u>Upgradient Well Well 121/121A</u>	<u>Well 108/108A</u>	<u>Downgradient Wells</u>	
			<u>Well 122</u>	<u>Well 123</u>
Nov-03	0.0067	0.0065	0.0074	0.179
Mar-04	0.0112	0.0097	0.0126	0.172
May-04	0.0093	0.0074	0.0094	0.162
Aug-04	0.0045	0.0057	0.0059	0.166
Nov-04	0.0101	0.0098	0.0085	0.185
Mar-05	0.0087	0.0067	0.011	0.179
May-05	0.0087	0.0055	0.0081	0.167
Aug-05	0.008	0.0077	0.009	0.162
Nov-05	0.0108	0.0076	0.0076	0.158
Feb-06	0.0111	0.0105	0.0088	0.175
May-06	0.0131	0.0086	0.0107	0.173
Aug-06	0.0148	0.0194	0.0122	0.179
Nov-06	0.0119	0.0108	0.0087	0.17
Feb-07	0.0112	0.0091	0.0105	0.158
May-07	0.0129	0.0109	0.01	0.161
Aug-07	0.014	0.0139	0.0096	0.156
Nov-07	0.0101	0.0095	0.0077	0.138
Feb-08	0.0114	0.0092	0.0097	0.152
May-08	0.0126	0.0087	0.0083	0.141
Aug-08	0.011	0.0111	0.008	0.149
Nov-08	0.0134	0.0138	0.009	0.148
Feb-09	0.0116	0.0087	0.0096	0.139
May-09	0.0122	0.0108	0.0092	0.143
Aug-09	0.0145	0.0136	0.0108	0.162
Nov-09	0.0092	0.0081	0.0074	0.142
Feb-10	0.0141	0.0129	0.0074	0.151
Apr-10	0.0134	0.0088	0.0067	0.157
Jul-10	0.0126	0.0141	0.0089	0.150
Nov-10	0.0098	0.0124	0.0091	0.145
Feb-11	0.0132	0.0107	0.0086	0.145
Apr-11	0.0124	0.0113	0.0057	0.140
Jul-11	0.0150	0.0140	0.0110	0.150
Nov-11	0.0150	0.0140	0.0096	0.150
Feb-12	0.0070	0.0056	0.0044	0.065
May-12	0.0098	0.0091	0.0060	0.110
Aug-12	0.0130	0.0120	0.0073	0.120
Nov-12	0.0150	0.0120	0.0074	0.140
Feb-13	0.0130	0.0110	0.0090	0.140
May-13	0.0140	0.0130	0.0093	0.150
Jul-13	0.0130	0.0130	0.0090	0.140
Nov-13	0.0140	0.0120	0.0084	0.150
Feb-14	0.0120	0.0180	0.0085	0.130
May-14	0.0140	0.0110	0.0088	0.130
Jul-14	0.0150	0.0140	0.0098	0.160
Nov-14	0.0120	0.0110	0.0079	0.140
Feb-15	0.0150	0.0120	0.0095	0.150
May-15	0.0140	0.0150	0.0094	0.160
Jul-15	0.0140	0.0140	0.0080	0.140

TEST 2
STATISTICS FOR SLAG PIT SUMP (WMU 5)

Page 3 of 3

Selenium				
<u>Date</u>	Upgradient Well	Downgradient Wells		
	<u>Well 121/121A</u>	<u>Well 108/108A</u>	<u>Well 122</u>	<u>Well 123</u>
Nov-15	0.0150	0.0150	0.0091	0.160
Test 2 Results				
	Well 121/121A	Well 108/108A	Well 122	Well 123
Pre-2015 Mean	0.0136	0.0087	0.0076	0.1916
2015 Mean	0.0145	0.0140	0.0090	0.1525
1991-2015 Statistical Summary				
Mean	0.014	0.009	0.008	0.190
Median	0.010	0.009	0.008	0.175
Standard Deviation	0.032	0.004	0.002	0.066
Kurtosis	86.70	-0.31	0.14	8.18
Skewness	9.253	0.406	-0.662	2.002
Minimum	0.002	0.002	0.002	0.026
Maximum	0.312	0.019	0.013	0.534
Count	89	81	70	97

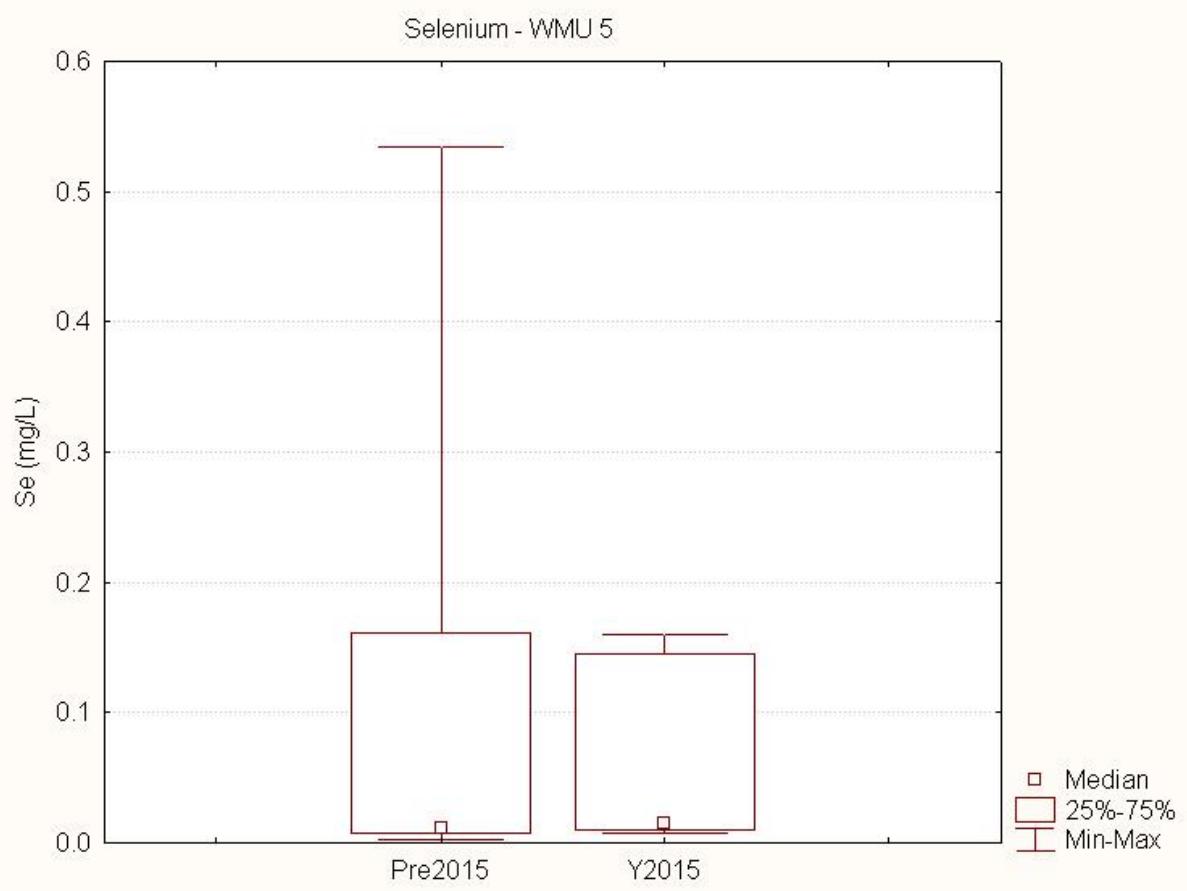
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

WMU 5 TEST 3 SELENIUM

Mann-Whitney U Test Results

Sample Date	N	Median	Rank Sum	U	Z	p
Pre-2015	236	0.0110	29214.0	1248.0	-0.69	0.49
Year 2015	12	0.0145	1662.0			

Summary: For downgradient wells, the median of pre-2015 selenium concentrations is not significantly different from the median of Year 2015 selenium concentrations.



Selenium in Groundwater (WMU 5)



POND 8S

Waste Management Unit 7

Note:

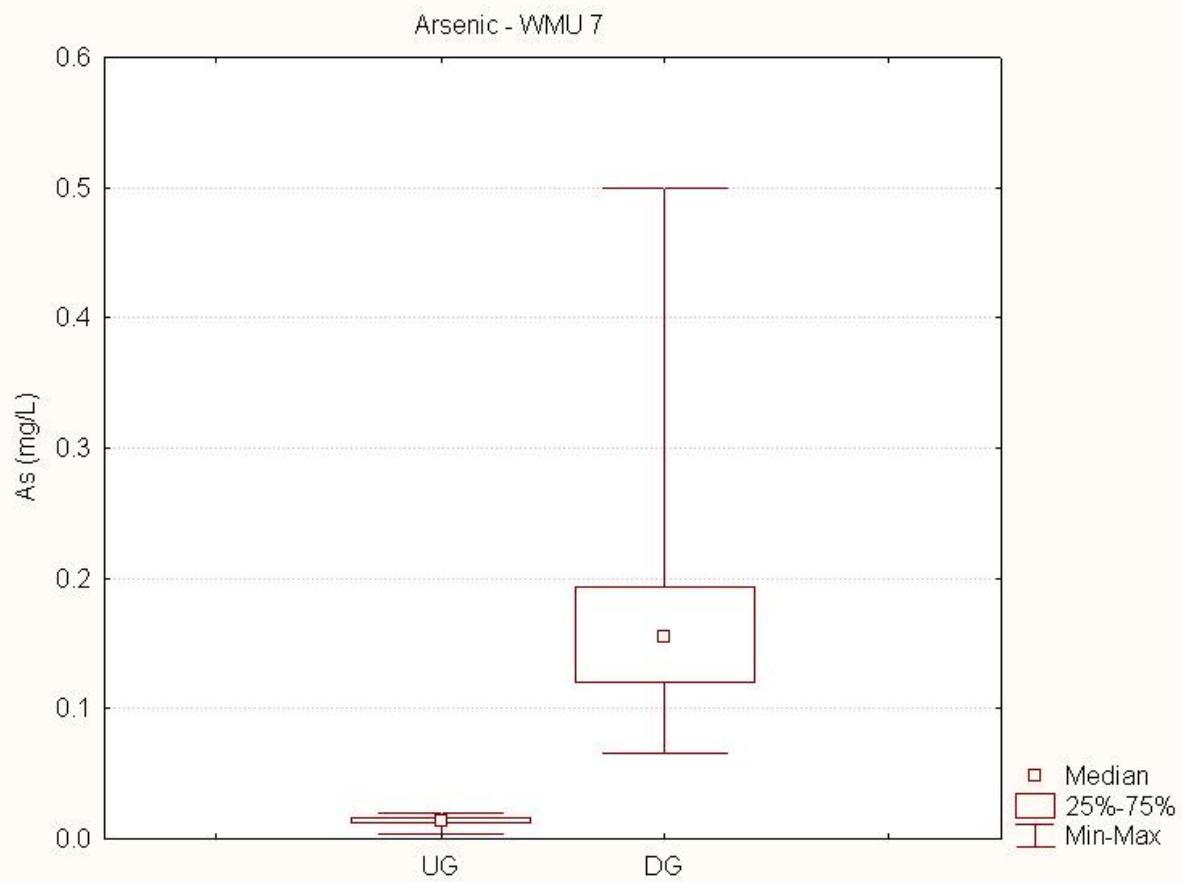
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 7 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	155	0.014	12090.0	0.00	-16.87	<0.0001
Downgradient	246	0.155	68511.0			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 8S (WMU 7)

Arsenic

<u>Date</u>	<u>Upgradient Wells</u>		<u>Downdgradient Wells</u>		
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Sep-91	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-91	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-92	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-92	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-92	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-92	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-93	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-93	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-93	0.015	N.S.	N.S.	N.S.	N.S.
Dec-93	0.013	N.S.	N.S.	N.S.	N.S.
Mar-94	0.017	N.S.	N.S.	N.S.	N.S.
Jun-94	0.014	N.S.	N.S.	N.S.	N.S.
Sep-94	U	N.S.	N.S.	N.S.	N.S.
Dec-94	0.009	N.S.	N.S.	N.S.	N.S.
Mar-95	0.012	N.S.	N.S.	N.S.	N.S.
Jun-95	0.010	N.S.	N.S.	N.S.	N.S.
Sep-95	0.014	N.S.	0.284	0.499	0.193
Dec-95	0.019	N.S.	0.271	0.481	0.199
Mar-96	0.009	N.S.	0.266	0.387	0.167
Jun-96	0.011	N.S.	0.218	0.243	0.174
Sep-96	0.016	N.S.	0.410	0.400	0.260
Dec-96	0.016	N.S.	0.420	0.330	0.230
Mar-97	0.014	N.S.	0.390	0.300	0.200
Jun-97	0.013	N.S.	0.390	0.270	0.240
Sep-97	0.013	N.S.	0.320	0.200	0.180
Dec-97	U	N.S.	0.360	0.180	0.190
Feb-98	0.014	N.S.	0.350	0.210	0.180
May-98	U	N.S.	0.380	0.190	0.200
Aug-98	0.016	N.S.	0.390	0.210	0.240
Nov-98	0.012	0.009	0.390	0.190	0.190
Feb-99	0.013	0.011	0.31	0.18	0.17
May-99	0.013	0.016	0.31	0.2	0.18
Aug-99	0.0154	0.0168	0.284	0.196	0.203
Nov-99	0.0161	0.0149	0.327	0.195	0.173
Mar-00	0.0165	0.0204	0.283	0.201	0.165
May-00	0.0157	0.0183	0.25	0.203	0.162
Aug-00	0.013	0.0162	0.196	0.159	0.193
Nov-00	0.0191	0.0178	0.26	0.166	0.179
Mar-01	0.012	0.0143	0.241	0.155	0.163
May-01	0.0121	0.0143	0.213	0.163	0.15
Aug-01	0.0118	0.016	0.191	0.14	0.169
Nov-01	0.015	0.0181	0.186	0.154	0.173
Mar-02	0.014	0.014	0.202	0.149	0.157
May-02	0.013	0.0154	0.204	0.158	0.167
Aug-02	0.013	0.0153	0.206	0.141	0.169
Nov-02	0.0106	0.0157	0.191	0.149	0.139
Mar-03	0.0128	0.0154	0.221	0.155	0.119
May-03	0.0122	0.0169	0.208	0.163	0.122
Aug-03	0.0113	0.0167	0.185	0.163	0.13

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Arsenic

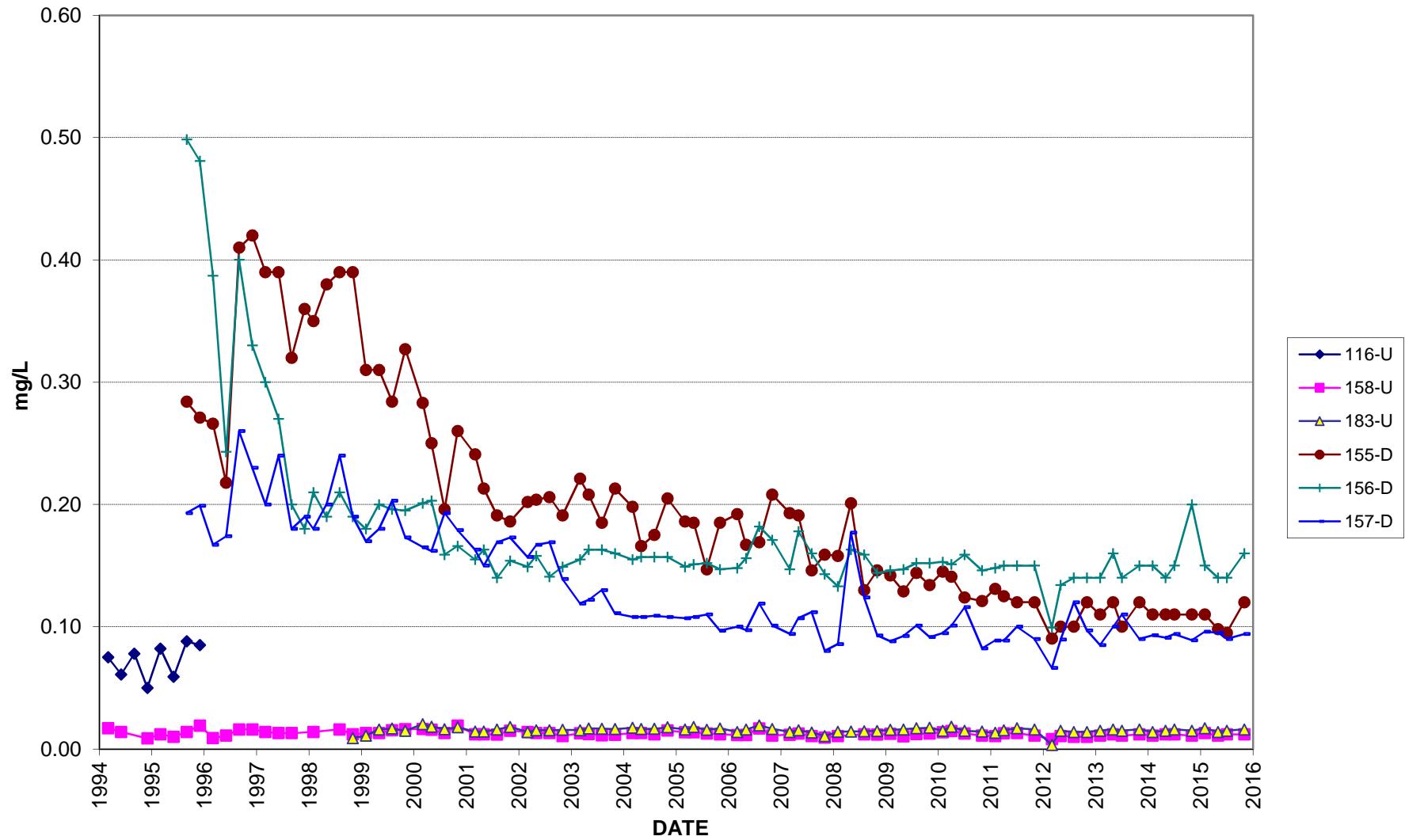
<u>Date</u>	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Nov-03	0.0117	0.0163	0.213	0.16	0.111
Mar-04	0.013	0.0174	0.198	0.155	0.108
May-04	0.013	0.0163	0.166	0.157	0.108
Aug-04	0.012	0.0166	0.175	0.157	0.109
Nov-04	0.0152	0.0178	0.205	0.157	0.108
Mar-05	0.0137	0.016	0.186	0.149	0.107
May-05	0.0137	0.018	0.185	0.151	0.108
Aug-05	0.0126	0.0157	0.147	0.152	0.11
Nov-05	0.0121	0.0169	0.185	0.147	0.0968
Feb-06	0.0114	0.014	0.192	0.148	0.1
May-06	0.0114	0.0159	0.167	0.156	0.0973
Aug-06	0.0169	0.0193	0.169	0.182	0.119
Nov-06	0.0111	0.0164	0.208	0.171	0.101
Feb-07	0.0117	0.014	0.193	0.147	0.0941
May-07	0.0126	0.0153	0.191	0.178	0.107
Aug-07	0.0106	0.0135	0.146	0.16	0.112
Nov-07	0.0094	0.0106	0.159	0.143	0.0803
Feb-08	0.0107	0.0141	0.158	0.133	0.0859
May-08	U	0.0144	0.201	0.163	0.177
Aug-08	0.012	0.0145	0.13	0.159	0.124
Nov-08	0.0118	0.0148	0.146	0.144	0.0929
Feb-09	0.0124	0.0157	0.142	0.146	0.0881
May-09	0.0103	0.016	0.129	0.147	0.0924
Aug-09	0.0123	0.017	0.144	0.152	0.101
Nov-09	0.0126	0.0174	0.134	0.152	0.0916
Feb-10	0.0138	0.015	0.145	0.153	0.0948
Apr-10	0.0147	0.0182	0.141	0.151	0.101
Jul-10	0.0127	0.0149	0.124	0.159	0.116
Nov-10	0.011	0.0143	0.121	0.146	0.0823
Feb-11	0.0107	0.0132	0.131	0.148	0.0888
Apr-11	0.0128	0.0154	0.125	0.15	0.0888
Jul-11	0.013	0.017	0.12	0.15	0.1
Nov-11	0.011	0.016	0.12	0.15	0.09
Mar-12	0.00815	0.00344	0.0903	0.0993	0.0663
May-12	0.0107	0.0149	0.1	0.134	0.0896
Aug-12	0.01	0.014	0.1	0.14	0.12
Nov-12	0.01	0.014	0.12	0.14	0.097
Feb-13	0.011	0.015	0.11	0.14	0.085
May-13	0.012	0.016	0.12	0.16	0.1
Jul-13	0.011	0.015	0.1	0.14	0.11
Nov-13	0.012	0.016	0.12	0.15	0.09
Feb-14	0.011	0.014	0.11	0.15	0.093
May-14	0.012	0.015	0.11	0.14	0.091
Jul-14	0.012	0.016	0.11	0.15	0.094
Nov-14	0.011	0.015	0.11	0.20	0.089
Feb-15	0.013	0.017	0.11	0.15	0.096
May-15	0.011	0.014	0.098	0.14	0.095
Jul-15	0.012	0.015	0.095	0.14	0.090

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Arsenic					
<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Nov-15	0.012	0.016	0.12	0.16	0.094
Test 2 Results					
	Well 158	Well 183	Well 155	Well 156	Well 157
Pre-2015 Mean	0.0128	0.0154	0.2090	0.1818	0.1361
2015 Mean	0.0115	0.0150	0.1100	0.1600	0.0918
1991-2015 Statistical Summary					
Mean	0.0127	0.0154	0.2039	0.1807	0.1339
Median	0.0124	0.0157	0.1885	0.1565	0.1115
Standard Deviation	0.0021	0.0024	0.0877	0.0713	0.0462
Kurtosis	0.8029	9.4198	-0.0023	9.5771	-0.4338
Skewness	0.7490	-2.1545	0.9554	3.0309	0.7621
Minimum	0.0082	0.0034	0.0903	0.0993	0.0663
Maximum	0.0191	0.0204	0.4200	0.4990	0.2600
Count	82	65	78	78	78

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Arsenic in Groundwater (WMU 7)

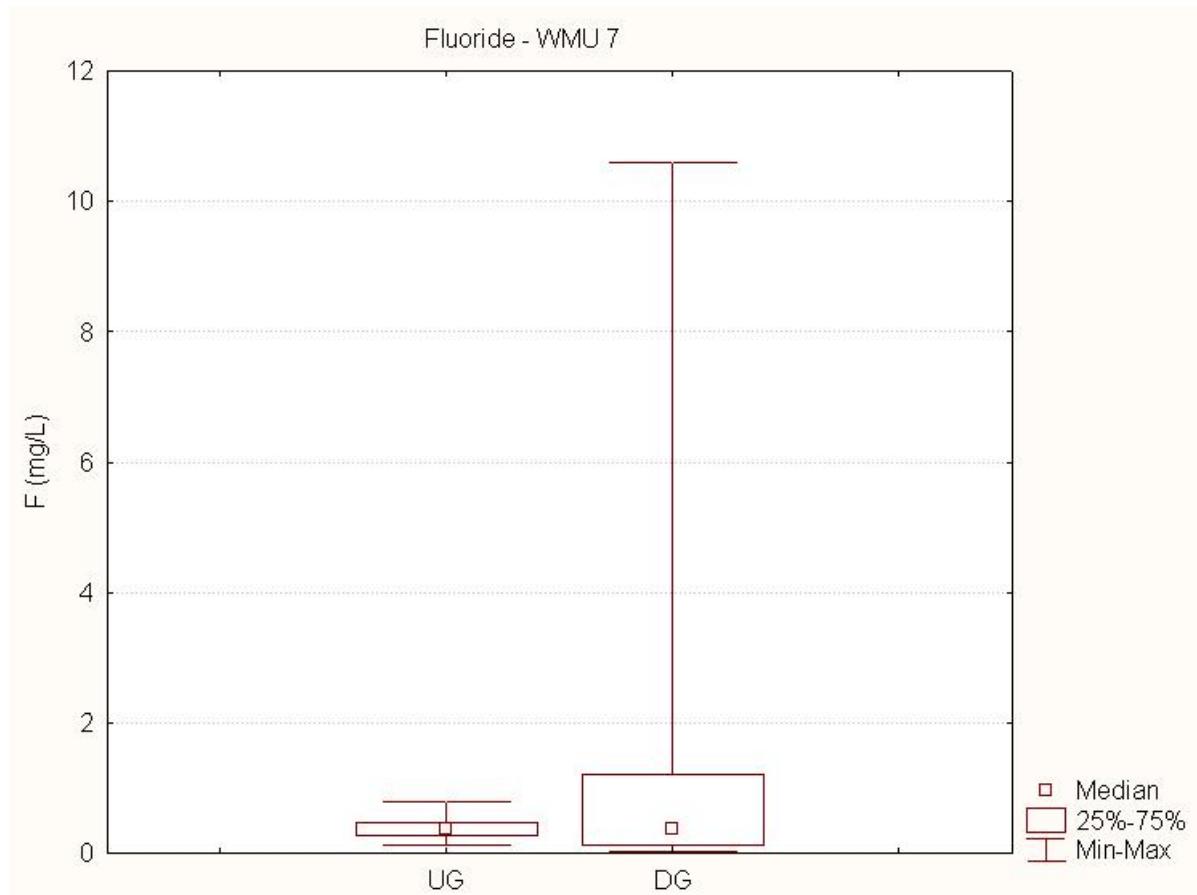


WMU 7 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	150	0.37	20327.5	9002.5	-0.11	0.91
Downgradient	121	0.36	16528.5			

Summary: The median fluoride concentration of downgradient (DG) wells is not significantly different from the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 8S (WMU 7)

Fluoride

<u>Date</u>	Upgradient Wells			Downgradient Wells	
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Sep-91	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-91	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-92	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-92	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-92	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-92	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-93	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-93	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-93	0.500	N.S.	N.S.	N.S.	N.S.
Dec-93	0.500	N.S.	N.S.	N.S.	N.S.
Mar-94	0.500	N.S.	N.S.	N.S.	N.S.
Jun-94	0.500	N.S.	N.S.	N.S.	N.S.
Sep-94	0.600	N.S.	N.S.	N.S.	N.S.
Dec-94	0.300	N.S.	N.S.	N.S.	N.S.
Mar-95	0.492	N.S.	N.S.	N.S.	N.S.
Jun-95	0.450	N.S.	N.S.	N.S.	N.S.
Sep-95	0.642	N.S.	U	U	8.280
Dec-95	U	N.S.	U	U	7.240
Mar-96	0.518	N.S.	U	U	8.760
Jun-96	0.554	N.S.	0.129	U	9.960
Sep-96	U	N.S.	U	U	6.700
Dec-96	U	N.S.	U	0.160	10.600
Mar-97	0.390	N.S.	U	0.180	9.200
Jun-97	0.380	N.S.	U	0.460	10.100
Sep-97	0.360	N.S.	U	U	8.500
Dec-97	0.340	N.S.	U	0.370	8.150
Feb-98	0.360	N.S.	U	0.120	7.900
May-98	0.360	N.S.	U	0.150	7.900
Aug-98	0.360	N.S.	U	0.140	7.200
Nov-98	0.390	0.50	U	0.130	6.200
Feb-99	0.41	0.57	0.12	0.16	5.07
May-99	0.37	0.77	U	0.16	6.8
Aug-99	0.35	0.78	U	0.1	5.5
Nov-99	U	U	U	U	U
Mar-00	0.34	0.49	U	U	3.52
May-00	0.23	0.53	U	0.17	4.6
Aug-00	0.32	0.47	U	0.11	5.3
Nov-00	0.35	0.48	U	U	4.2
Mar-01	0.22	0.53	U	0.12	4.19
May-01	0.29	0.52	U	0.11	4.8
Aug-01	0.17	0.47	U	U	6.1
Nov-01	0.29	0.48	U	U	4.7
Mar-02	0.31	0.6	U	U	4.2
May-02	N.S.	N.S.	N.S.	N.S.	N.S.
Aug-02	0.3	N.S.	N.S.	N.S.	N.S.
Nov-02	0.25	0.42	U	U	2
Mar-03	0.34	0.45	U	0.12	1.3
May-03	0.27	0.54	U	U	1.2
Aug-03	0.33	0.6	U	U	1.6
Nov-03	0.21	0.52	U	U	1.4

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Fluoride

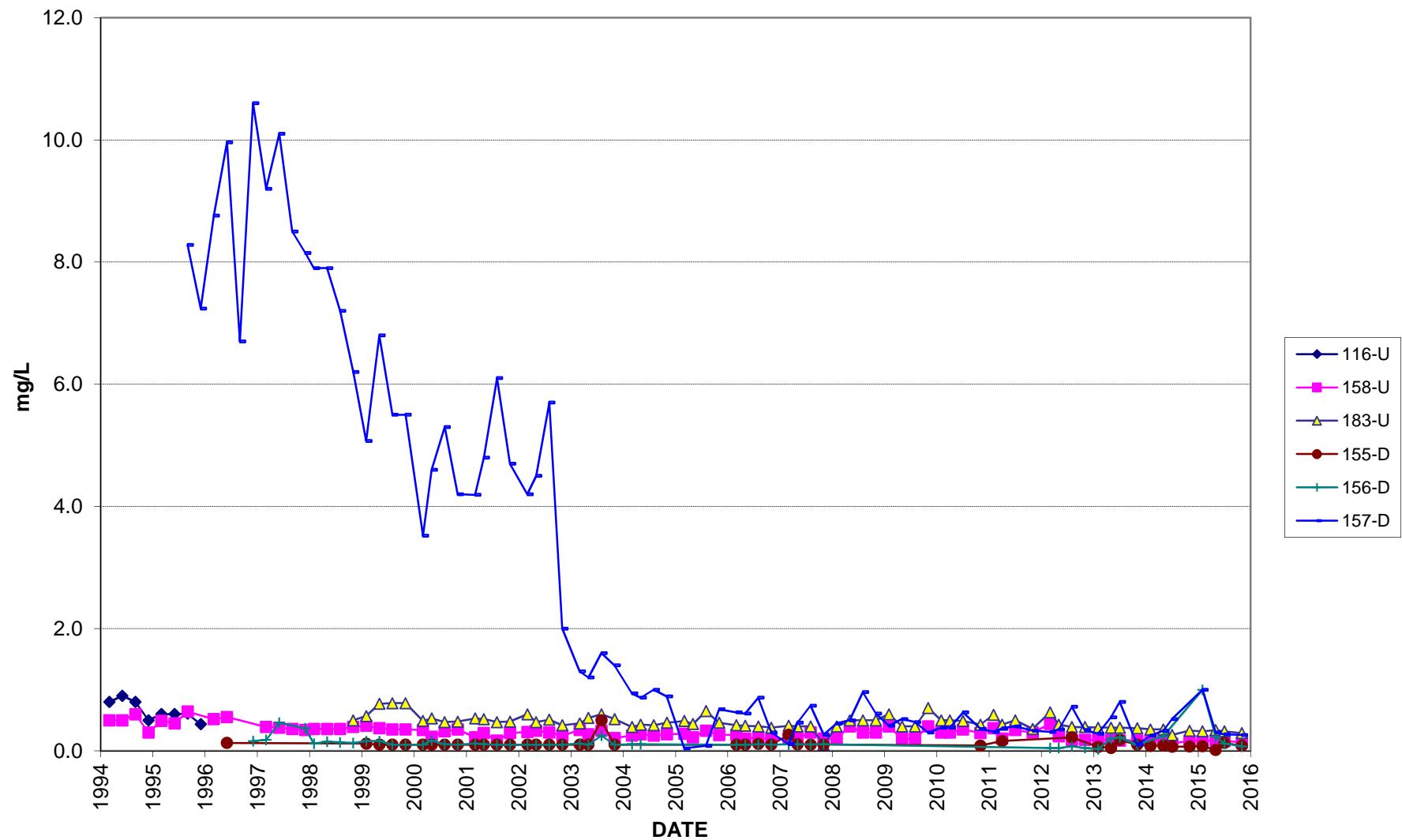
<u>Date</u>	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Mar-04	0.25	0.39	U	0.11	0.94
May-04	0.27	0.43	U	0.11	0.87
Aug-04	0.25	0.42	U	U	1
Nov-04	0.27	0.46	U	U	0.89
Mar-05	0.28	0.49	0.1	U	0.041
May-05	0.22	0.44	N.S.	N.S.	N.S.
Aug-05	0.33	0.65	0.1	U	0.083
Nov-05	0.26	0.46	0.1	U	0.68
Feb-06	0.26	0.42	U	U	0.63
May-06	0.2	0.41	U	U	0.61
Aug-06	0.22	0.4	U	U	0.869
Nov-06	0.19	0.38	0.104	U	0.3
Feb-07	0.2	0.41	U	U	U
May-07	0.2	0.4	U	U	0.46
Aug-07	0.3	0.4	U	U	0.739
Nov-07	0.2	U	0.1	0.1	0.601
Feb-08	0.2	0.4	U	U	0.45
May-08	0.4	0.5	U	U	0.5
Aug-08	0.3	0.5	U	U	0.96
Nov-08	0.3	0.5	U	U	0.61
Feb-09	0.4	0.6	U	U	0.41
May-09	0.2	0.4	U	U	0.52
Aug-09	0.2	0.4	U	U	0.47
Nov-09	0.4	0.7	U	U	0.3
Feb-10	0.3	0.5	U	U	0.38
Apr-10	0.3	0.5	U	U	0.38
Jul-10	0.35	0.49	U	U	0.63
Nov-10	0.29	0.43	0.086	U	0.36
Feb-11	0.37	0.59	U	U	0.31
Apr-11	0.2	0.43	0.16	U	0.37
Jul-11	0.34	0.5	U	U	0.4
Nov-11	0.3	0.36	U	U	0.33
Mar-12	0.44	0.63	U	0.047	0.31
May-12	0.24	0.43	U	0.047	0.35
Aug-12	0.18	0.39	0.22	0.073	0.72
Nov-12	0.18	0.39	U	0.047	0.34
Feb-13	0.18	0.38	0.066	0.028	0.28
May-13	0.18	0.38	U	U	0.55
Jul-13	0.17	0.38	0.18	U	0.8
Nov-13	0.17	0.37	U	U	0.3
Feb-14	0.17	0.35	0.082	U	0.25
May-14	0.17	0.35	0.089	0.24	0.33
Jul-14	0.12	0.26	0.067	U	0.52
Nov-14	0.16	0.33	0.071	U	U
Feb-15	0.16	0.32	0.077	U	U
May-15	0.17	0.34	0.017	U	U
Jul-15	0.16	0.32	0.13	0.12	0.12
Nov-15	0.14	0.29	0.084	0.073	0.26

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Date	Fluoride				
	Upgradient Wells		Downgradient Wells		
	<u>Well 158</u>	<u>Well 183</u>	Well 155	<u>Well 156</u>	<u>Well 157</u>
Test 2 Results					
Pre-2015 Mean	0.3161	0.4812	0.1221	0.1384	2.9408
2015 Mean	0.1550	0.3225	0.0773	0.2400	0.3667
1991-2015 Statistical Summary					
Mean	0.3081	0.4708	0.1109	0.1425	2.8335
Median	0.3000	0.4600	0.1000	0.1200	0.8695
Standard Deviation	0.1115	0.1012	0.0428	0.0957	3.2285
Kurtosis	0.3216	1.4785	1.6964	5.1144	-0.4769
Skewness	0.7782	1.0382	1.4191	2.0655	1.0008
Minimum	0.1200	0.2600	0.0660	0.0280	0.0410
Maximum	0.6420	0.7800	0.2200	0.4600	10.6000
Count	81	61	16	25	72

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Fluoride in Groundwater (WMU 7)

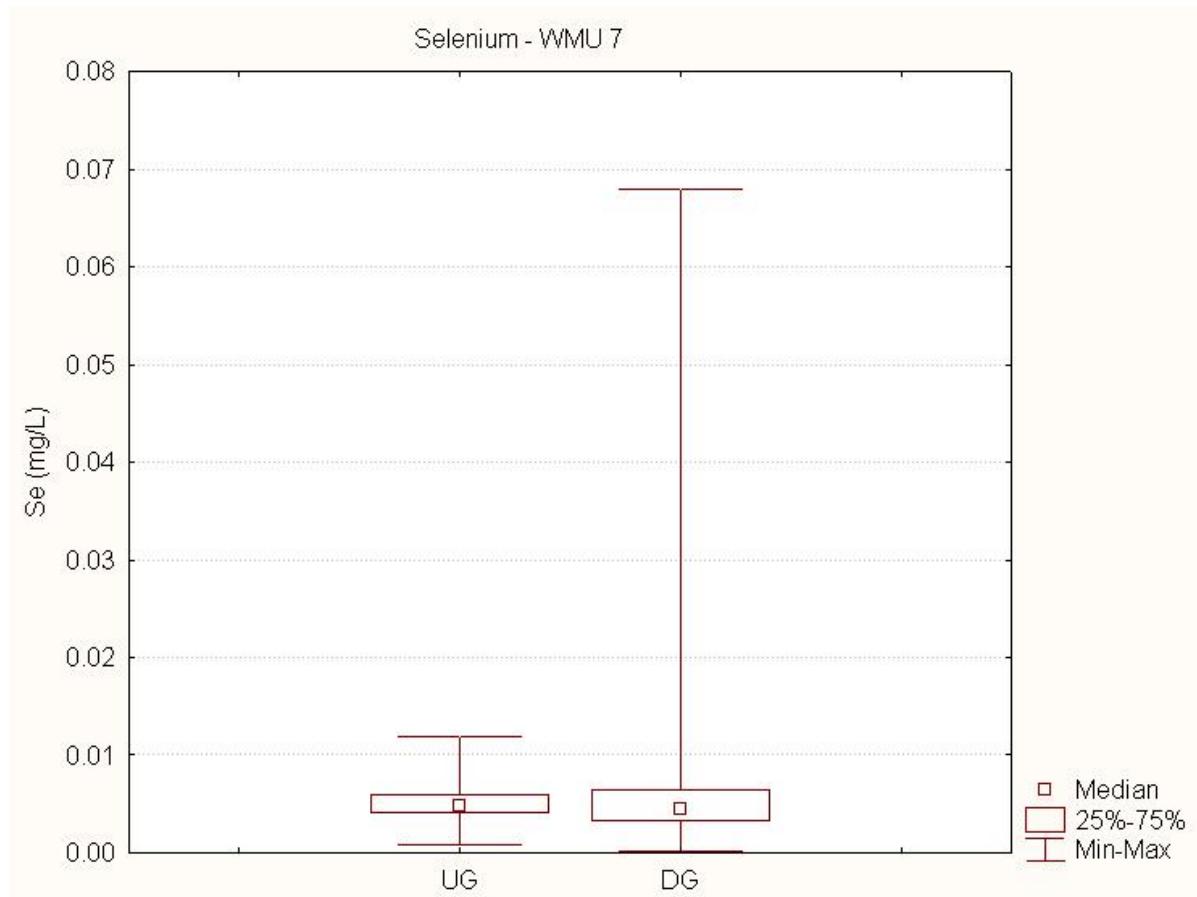


WMU 7 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	94	0.0049	9750.5	3832.5	1.908	0.057
Downgradient	97	0.0045	8585.5			

Summary: The median selenium concentration of upgradient (UG) wells is not significantly different from the median concentration of downgradient (DG) wells.



TEST 2
STATISTICS FOR POND 8S (WMU 7)

Selenium

<u>Date</u>	Upgradient Wells			Downgradient Wells	
	<u>Well 158</u>	<u>Well 183</u>	<u>Well 155</u>	<u>Well 156</u>	<u>Well 157</u>
Sep-91	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-91	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-92	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-92	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-92	N.S.	N.S.	N.S.	N.S.	N.S.
Dec-92	N.S.	N.S.	N.S.	N.S.	N.S.
Mar-93	N.S.	N.S.	N.S.	N.S.	N.S.
Jun-93	N.S.	N.S.	N.S.	N.S.	N.S.
Sep-93	U	N.S.	N.S.	N.S.	N.S.
Dec-93	0.002	N.S.	N.S.	N.S.	N.S.
Mar-94	U	N.S.	N.S.	N.S.	N.S.
Jun-94	U	N.S.	N.S.	N.S.	N.S.
Sep-94	U	N.S.	N.S.	N.S.	N.S.
Dec-94	U	N.S.	N.S.	N.S.	N.S.
Mar-95	U	N.S.	N.S.	N.S.	N.S.
Jun-95	U	N.S.	N.S.	N.S.	N.S.
Sep-95	0.002	N.S.	0.068	0.028	0.005
Dec-95	U	N.S.	U	0.002	U
Mar-96	U	N.S.	U	U	U
Jun-96	U	N.S.	U	U	U
Sep-96	U	N.S.	0.003	0.003	0.004
Dec-96	U	N.S.	U	U	U
Mar-97	U	N.S.	0.006	0.0045	U
Jun-97	U	N.S.	U	U	0.0046
Sep-97	U	N.S.	U	U	U
Dec-97	U	N.S.	U	0.0043	U
Feb-98	0.005	N.S.	0.0039	0.0065	0.0038
May-98	U	N.S.	U	U	U
Aug-98	U	N.S.	U	0.0079	U
Nov-98	U	0.004	U	0.0041	0.0045
Feb-99	U	U	U	U	U
May-99	U	U	U	U	U
Aug-99	U	0.0048	U	0.0027	U
Nov-99	U	0.0065	U	0.0051	U
Mar-00	U	U	U	U	U
May-00	U	U	U	U	U
Aug-00	U	U	0.0047	U	U
Nov-00	U	U	U	U	0.0052
Mar-01	U	U	0.003	U	U
May-01	U	0.0081	U	0.0046	U
Aug-01	U	U	U	0.0038	U
Nov-01	U	0.0042	U	0.0041	U
Mar-02	U	U	U	0.0042	U
May-02	0.0043	0.0045	U	U	0.0037
Aug-02	U	0.0056	U	0.0055	U
Nov-02	0.0041	0.0038	0.0034	U	U
Mar-03	0.0042	U	0.0035	0.0034	U
May-03	U	0.0063	U	0.0036	U
Aug-03	U	0.0059	U	0.0037	0.0045

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Selenium

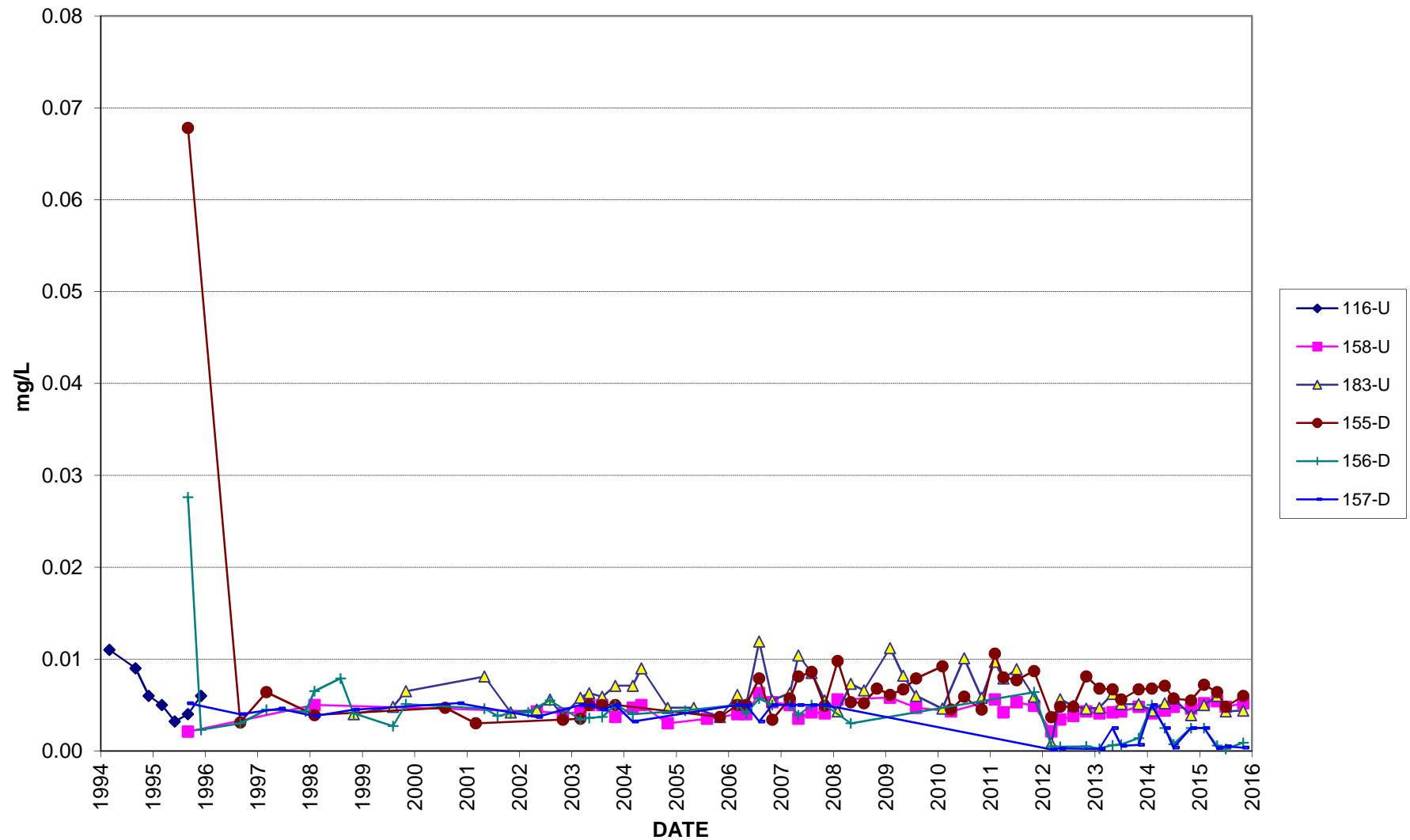
<u>Date</u>	Upgradient Wells		Downgradient Wells		
	Well 158	Well 183	Well 155	Well 156	Well 157
Nov-03	0.0037	0.0071	U	U	U
Mar-04	0.0047	0.0071	U	0.004	0.0032
May-04	0.005	0.009	U	U	U
Aug-04	U	U	U	U	U
Nov-04	0.003	0.0047	U	U	U
Mar-05	U	U	U	0.0044	U
May-05	U	0.0047	U	U	U
Aug-05	0.0035	U	U	U	U
Nov-05	U	0.0037	0.0037	U	U
Feb-06	0.004	0.0061	U	U	U
May-06	0.004	0.005	U	0.0041	U
Aug-06	0.0063	0.0119	0.0079	0.0057	0.0032
Nov-06	0.0053	0.0055	0.0034	U	U
Feb-07	U	0.0063	0.0057	U	U
May-07	0.0035	0.0104	0.0081	0.0039	U
Aug-07	0.0042	0.0085	0.0086	U	U
Nov-07	0.0041	0.0055	0.0049	U	U
Feb-08	U	0.0043	0.0098	U	U
May-08	U	0.0073	0.0053	0.003	U
Aug-08	U	0.0066	0.0052	U	U
Nov-08	U	U	0.0068	U	U
Feb-09	0.0058	0.0112	0.0061	U	U
May-09	U	0.0082	0.0067	U	U
Aug-09	0.0047	0.006	0.0079	U	U
Nov-09	U	U	U	U	U
Feb-10	U	0.0046	0.0092	U	U
Apr-10	0.0043	U	0.0045	U	U
Jul-10	U	0.0101	0.0059	U	U
Nov-10	U	0.0058	0.0045	U	U
Feb-11	0.0056	0.0097	0.0106	U	U
Apr-11	0.0042	0.0079	0.008	U	U
Jul-11	0.0053	0.0089	0.0077	U	U
Nov-11	0.0049	0.0059	0.0087	0.0064	U
Mar-12	0.00214	0.00084	0.00368	0.00052	0.00015
May-12	0.00342	0.00563	0.00481	0.00046	0.00027
Aug-12	0.0038	0.0049	0.0048	U	U
Nov-12	0.0043	0.0046	0.0081	U	U
Feb-13	0.0041	0.0047	0.0068	U	U
May-13	0.0042	0.0062	0.0067	0.00062	U
Jul-13	0.0043	0.0051	0.0056	0.0007	0.00055
Nov-13	0.0048	0.0051	0.0067	0.0014	0.00067
Feb-14	0.0041	0.0044	0.0068	U	U
May-14	0.0044	0.0052	0.0071	U	U
Jul-14	0.0048	0.0057	0.0057	0.00073	0.00036
Nov-14	0.0046	0.0039	0.0055	U	U
Feb-15	0.0052	0.0050	0.0072	U	U
May-15	0.0054	0.0060	0.0064	0.00059	0.00032
Jul-15	0.0048	0.0043	0.0048	0.00023	U

TEST 2
STATISTICS FOR POND 8S (WMU 7)

Selenium					
<u>Date</u>	Upgradient Wells			Downgradient Wells	
	Well 158	Well 183	Well 155	Well 156	Well 157
Nov-15	0.0052	0.0044	0.0060	0.00090	0.00036
Test 2 Results					
	Well 158	Well 183	Well 155	Well 156	Well 157
Pre-2015 Mean	0.0042	0.0063	0.0077	0.0045	0.0031
2015 Mean	0.0045	0.0048	0.0063	0.0007	0.0004
1991-2015 Statistical Summary					
Mean	0.0042	0.0062	0.0076	0.0044	0.0029
Median	0.0042	0.0057	0.0060	0.0040	0.0037
Standard Deviation	0.0009	0.0022	0.0097	0.0048	0.0019
Kurtosis	1.0479	0.7564	38.5437	21.4555	-1.5715
Skewness	-0.5433	0.7035	6.0883	4.2617	-0.5112
Minimum	0.0020	0.0008	0.0030	0.0005	0.0002
Maximum	0.0063	0.0119	0.0680	0.0280	0.0052
Count	37	49	42	31	15

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Selenium in Groundwater (WMU 7)



PHASE IV PONDS AND POND 8E

Waste Management Units 8 and 11

Note:

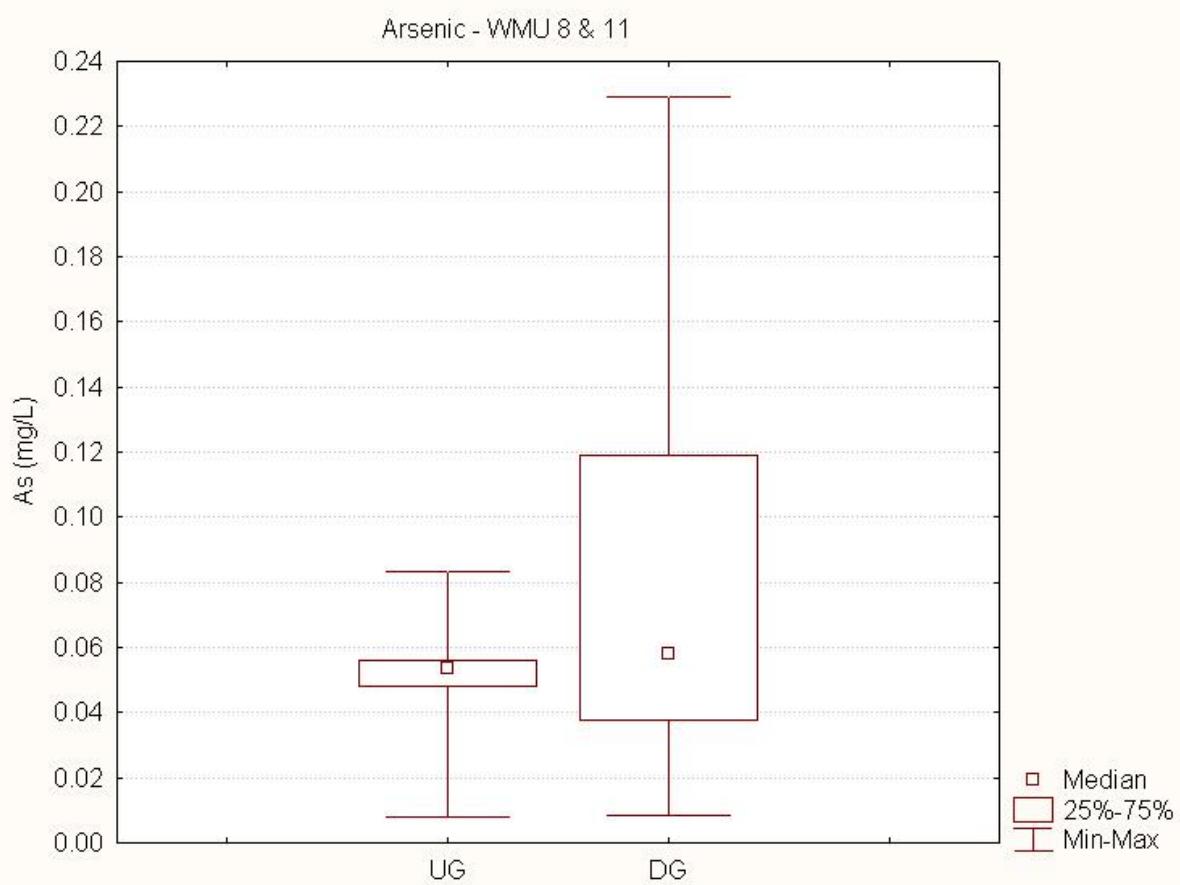
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 8 & 11 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	82	0.054	16170.5	12767.5	-2.44	0.0147
Downgradient	376	0.058	88940.5			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Well 104</u>	<u>Downgradient Wells</u>		
	<u>Well 167</u>		<u>Well 114</u>	<u>Well 131</u>	<u>Well 168</u>
Sep-91	N.S.	0.0920	0.1750	0.0430	N.S.
Dec-91	N.S.	0.0980	0.1780	0.0450	N.S.
Mar-92	N.S.	0.0810	0.1840	0.0590	N.S.
Jun-92	N.S.	0.2120	0.1950	0.0480	N.S.
Sep-92	N.S.	0.2290	0.1537	0.0520	N.S.
Dec-92	N.S.	0.1800	0.1790	0.0470	N.S.
Mar-93	N.S.	0.1640	0.1200	0.0580	N.S.
Jun-93	N.S.	0.1640	0.1818	0.0470	N.S.
Sep-93	N.S.	0.1270	0.2018	0.0550	N.S.
Dec-93	N.S.	0.1220	0.1722	0.0540	N.S.
Mar-94	N.S.	0.1280	0.1919	0.0550	N.S.
Jun-94	N.S.	0.1720	0.1284	0.0460	N.S.
Sep-94	N.S.	0.0580	0.1079	0.0540	N.S.
Dec-94	N.S.	0.1260	0.1758	0.0560	N.S.
Mar-95	N.S.	0.1050	0.1380	0.0430	N.S.
Jun-95	N.S.	0.0970	0.1558	0.0760	N.S.
Sep-95	0.0190	0.0960	0.1546	0.0690	0.0350
Dec-95	0.0080	0.1040	0.1532	0.0520	0.0480
Mar-96	0.0310	0.0770	0.1212	0.0460	0.0130
Jun-96	0.0430	0.0840	0.1219	0.0540	0.0240
Sep-96	0.0550	0.0980	0.1400	0.0630	0.0320
Dec-96	0.0590	0.1100	0.1600	0.0600	0.0300
Mar-97	0.0600	0.0950	0.1500	0.0590	0.0220
Jun-97	0.0610	0.0920	0.1400	0.0560	0.0240
Sep-97	0.0670	0.0980	0.1500	0.0700	0.0370
Dec-97	0.0620	0.0890	0.1400	0.0580	0.0260
Feb-98	0.0520	0.0820	0.1300	0.0540	0.0240
May-98	0.0580	0.0850	0.1400	0.0650	0.0290
Aug-98	0.0560	0.0790	0.1300	0.0680	0.0240
Nov-98	0.0540	0.0680	0.1100	0.0510	0.0210
Feb-99	0.0620	0.0860	0.1500	0.0650	0.0280
May-99	0.0550	0.0760	0.1500	0.0660	0.0270
Aug-99	0.0525	0.0828	0.1520	0.0817	0.0300
Nov-99	0.0834	0.0772	0.1520	0.0726	0.0309
Mar-00	0.0609	0.0747	0.1400	0.0712	0.0317
May-00	0.0523	0.0722	0.1440	0.0669	0.0272
Aug-00	0.0557	0.0716	0.1450	0.0731	0.0304
Nov-00	0.0575	0.0672	0.1430	0.0749	0.0310
Feb-01	0.0536	0.0663	0.1390	0.0612	0.0273
May-01	0.0530	0.0632	0.1400	0.0667	0.0257
Aug-01	0.0541	0.0568	0.1310	0.0552	0.0248
Nov-01	0.0537	0.0663	0.1350	0.0673	0.0262
Mar-02	0.0539	0.0622	0.1400	0.0611	0.0273
May-02	0.0567	0.0589	0.1350	0.0628	0.0296
Jul-02	0.0478	0.0572	0.1290	0.0659	0.0273
Nov-02	0.0552	0.0596	0.1380	0.0662	0.0268
Mar-03	0.0597	0.0596	0.1390	0.0596	0.0278
May-03	0.0562	0.0597	0.1400	0.0680	0.0263

TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Arsenic

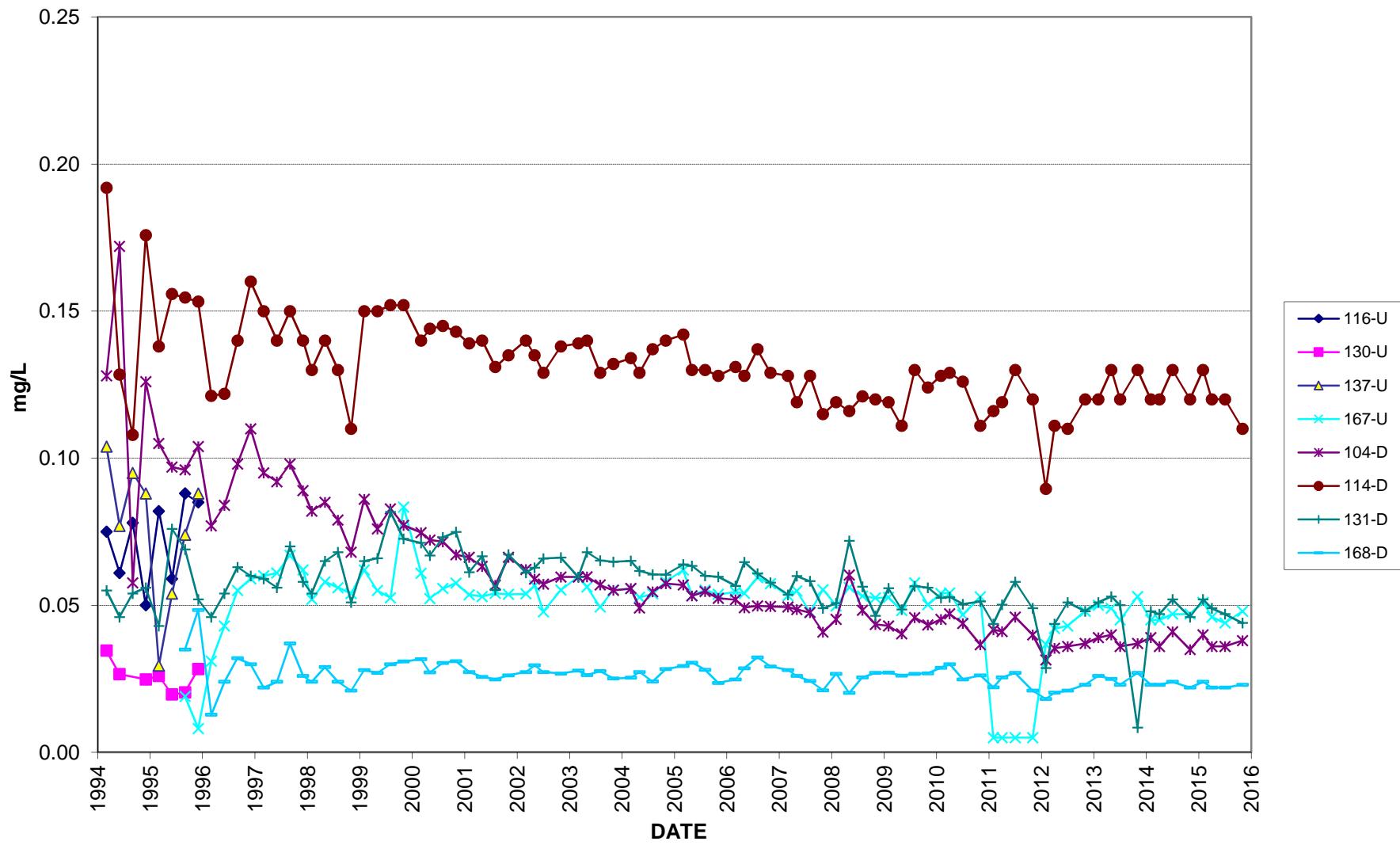
<u>Date</u>	Upgradient Well	Downgradient Wells			
	Well 167	Well 104	Well 114	Well 131	Well 168
Aug-03	0.0494	0.0569	0.1290	0.0652	0.0276
Nov-03	0.0552	0.0551	0.1320	0.0648	0.0251
Mar-04	0.0556	0.0557	0.1340	0.0651	0.0254
May-04	0.0527	0.0491	0.1290	0.0617	0.0273
Aug-04	0.0539	0.0546	0.1370	0.0605	0.0241
Nov-04	0.0580	0.0574	0.1400	0.0604	0.0283
Mar-05	0.0620	0.0569	0.1420	0.0639	0.0294
May-05	0.0532	0.0532	0.1300	0.0634	0.0305
Aug-05	0.0552	0.0547	0.1300	0.0600	0.0281
Nov-05	0.0537	0.0524	0.1280	0.0597	0.0236
Feb-06	0.0545	0.0519	0.1310	0.0566	0.0248
May-06	0.0541	0.0492	0.1280	0.0647	0.0286
Aug-06	0.0594	0.0498	0.1370	0.0608	0.0323
Nov-06	0.0574	0.0496	0.1290	0.0577	0.0292
Feb-07	0.0532	0.0494	0.1280	0.0536	0.0280
May-07	0.0549	0.0486	0.1190	0.0599	0.0260
Aug-07	0.0477	0.0475	0.1280	0.0582	0.0243
Nov-07	0.0553	0.0409	0.1150	0.0490	0.0211
Feb-08	0.0498	0.0452	0.1190	0.0507	0.0267
May-08	0.0561	0.0603	0.1160	0.0719	0.0202
Aug-08	0.0531	0.0483	0.1210	0.0563	0.0255
Nov-08	0.0525	0.0435	0.1200	0.0464	0.0270
Feb-09	0.0527	0.0430	0.1190	0.0558	0.0271
May-09	0.0482	0.0403	0.1110	0.0486	0.0261
Aug-09	0.0576	0.0458	0.1300	0.0565	0.0267
Nov-09	0.0502	0.0433	0.1240	0.0560	0.0269
Feb-10	0.0540	0.0452	0.1280	0.0525	0.0288
Apr-10	0.0542	0.0471	0.1290	0.0528	0.0300
Jul-10	0.0468	0.0438	0.1260	0.0504	0.0248
Nov-10	0.0529	0.0366	0.1110	0.0513	0.0262
Feb-11	0.0441	0.0417	0.1160	0.0437	0.0221
Apr-11	0.0494	0.0411	0.1190	0.0502	0.0255
Aug-11	0.0560	0.0460	0.1300	0.0580	0.0270
Nov-11	0.0510	0.0400	0.1200	0.0490	0.0210
Feb-12	0.0367	0.0314	0.0896	0.0287	0.0182
May-12	0.0421	0.0354	0.1110	0.0437	0.0203
Aug-12	0.0430	0.036	0.11	0.051	0.021
Oct-12	0.0480	0.037	0.12	0.048	0.023
Feb-13	0.0500	0.039	0.12	0.051	0.026
May-13	0.0490	0.040	0.13	0.053	0.025
Jul-13	0.0450	0.036	0.12	0.050	0.023
Nov-13	0.0530	0.037	0.13	0.008	0.027
Feb-14	0.0450	0.039	0.12	0.048	0.023
Apr-14	0.0450	0.036	0.12	0.047	0.023
Jul-14	0.0470	0.041	0.13	0.052	0.024
Nov-14	0.0470	0.035	0.12	0.046	0.022
Feb-15	0.0510	0.040	0.13	0.052	0.024

TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Arsenic					
<u>Date</u>	Upgradient Well		Downgradient Wells		
	Well 167	Well 104	Well 114	Well 131	Well 168
May-15	0.0460	0.036	0.12	0.050	0.022
Jul-15	0.0440	0.036	0.12	0.049	0.022
Nov-15	0.0480	0.038	0.11	0.049	0.023
Test 2 Results					
	Well 167	Well 104	Well 114	Well 131	Well 168
Pre-2015 Mean	0.0522	0.0715	0.1365	0.0567	0.0265
2015 Mean	0.0473	0.0375	0.1200	0.0500	0.0228
1991-2015 Statistical Summary					
Mean	0.052	0.070	0.136	0.056	0.026
Median	0.053	0.057	0.130	0.056	0.026
Standard Deviation	0.009	0.039	0.021	0.010	0.004
Kurtosis	8.911	4.453	1.507	4.490	6.982
Skewness	-1.605	1.990	1.152	-0.917	1.280
Minimum	0.008	0.031	0.090	0.008	0.013
Maximum	0.083	0.229	0.202	0.082	0.048
Count	82	98	98	98	82

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Arsenic in Groundwater (WMU 8 & 11)

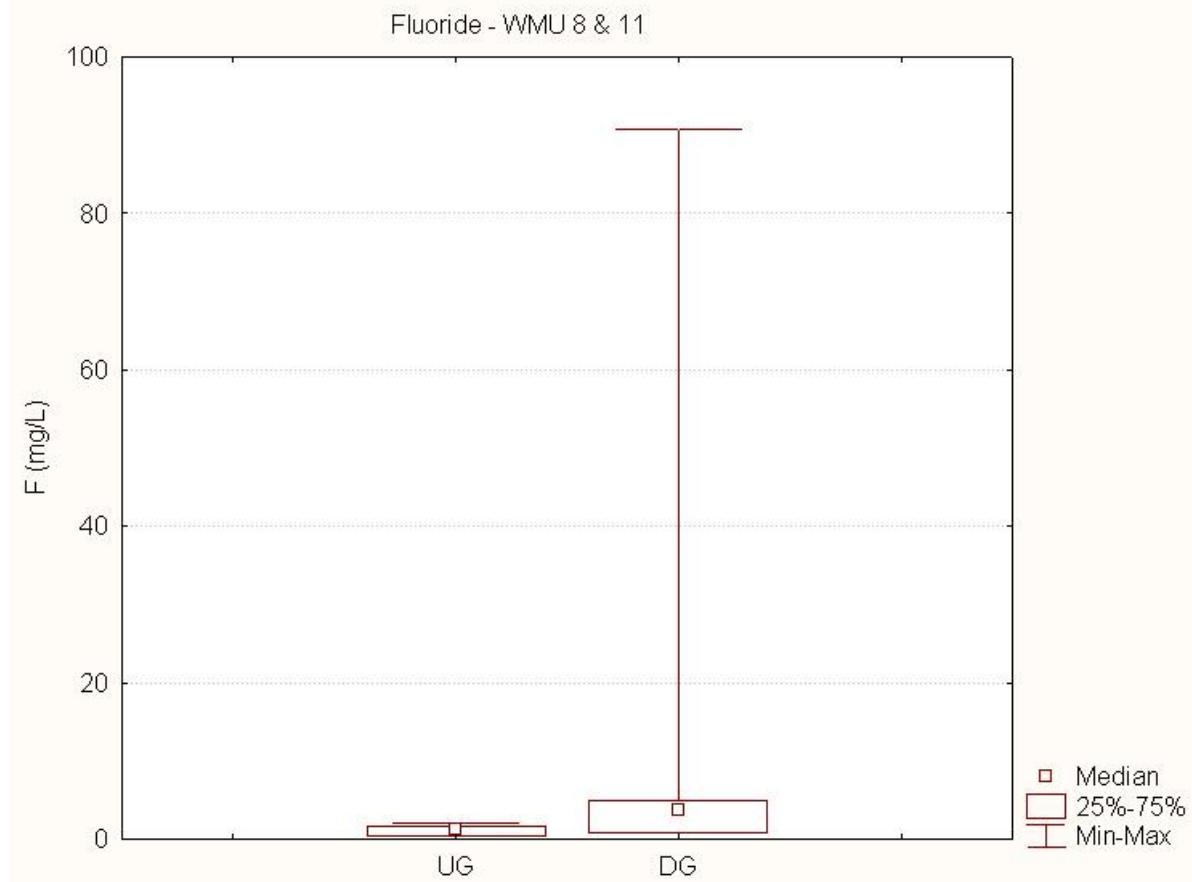


WMU 8 & 11 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	21	1.30	1981.5	1750.5	-3.40	0.0007
Downgradient	300	3.70	49699.5			

Summary: The median fluoride concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Fluoride

<u>Date</u>	<u>Upgradient Well</u>	<u>Well 167</u>	<u>Well 104</u>	<u>Well 114</u>	<u>Downgradient Wells</u>	<u>Well 131</u>	<u>Well 168</u>
Sep-91		N.S.	15.000	0.700	0.300		N.S.
Dec-91		N.S.	11.600	0.740	0.230		N.S.
Mar-92		N.S.	19.000	0.848	0.200		N.S.
Jun-92		N.S.	9.170	0.826	0.185		N.S.
Sep-92		N.S.	8.400	0.810	0.200		N.S.
Dec-92		N.S.	8.600	0.700	0.200		N.S.
Mar-93		N.S.	8.200	0.800	0.200		N.S.
Jun-93		N.S.	8.400	0.800	0.300		N.S.
Sep-93		N.S.	7.580	0.600	1.450		N.S.
Dec-93		N.S.	6.500	0.500	U		N.S.
Mar-94		N.S.	8.000	0.600	U		N.S.
Jun-94		N.S.	8.100	0.854	0.800		N.S.
Sep-94		N.S.	6.500	0.700	0.600		N.S.
Dec-94		N.S.	6.700	0.800	0.400		N.S.
Mar-95		N.S.	6.320	0.800	0.286		N.S.
Jun-95		N.S.	6.700	0.806	0.300		N.S.
Sep-95		0.360	6.920	0.872	U	54.400	
Dec-95		0.236	4.940	0.490	U	29.600	
Mar-96		U	6.200	U	U	9.100	
Jun-96		0.324	5.100	0.670	0.284	10.400	
Sep-96		U	6.040	U	U	5.600	
Dec-96		0.370	5.560	0.610	0.100	7.530	
Mar-97		0.100	5.300	0.660	0.180	5.900	
Jun-97		U	4.900	0.610	0.100	4.910	
Sep-97		U	4.700	0.530	U	4.600	
Dec-97		U	4.850	0.630	U	4.980	
Feb-98		U	5.3	0.69	U	5.1	
May-98		U	4.9	0.66	U	5	
Aug-98		U	4.6	0.75	U	4.8	
Nov-98		U	4.9	0.82	U	4.9	
Feb-99		U	5	0.8	0.13	5	
May-99		U	4.4	0.86	0.27	4.6	
Aug-99		U	4.6	0.75	0.14	5	
Nov-99		U	U	U	U	U	
Mar-00		U	4.9	0.89	U	5.5	
May-00		U	4.5	0.86	U	U	
Aug-00		U	4.8	0.88	0.14	5.5	
Nov-00		U	4.6	0.51	0.11	5.3	
Feb-01		U	4.5	0.95	U	4.8	
May-01		U	4.2	1.07	0.11	4.5	
Aug-01		U	3.8	0.82	0.13	4.6	
Nov-01		U	4.2	6.3	U	4.7	
Mar-02		U	4.2	1.01	U	4.6	
May-02		N.S.	4.5	N.S.	N.S.	5.6	
Jul-02		N.S.	4.2	N.S.	N.S.	5	
Nov-02		U	4.3	0.63	U	5.3	
Mar-03		U	4.8	0.73	0.13	5.7	
May-03		U	4.2	0.94	U	5.2	

TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Fluoride

<u>Date</u>	<u>Upgradient Well</u>	<u>Well 167</u>	<u>Well 104</u>	<u>Well 114</u>	<u>Downgradient Wells</u>	<u>Well 131</u>	<u>Well 168</u>
Aug-03		U	4.3	0.7		U	5
Nov-03		U	4.4	0.85		U	4.9
Mar-04		U	4.4	0.89		U	5.2
May-04		U	4.4	0.91		U	5.2
Aug-04		U	4.2	0.82		U	5.3
Nov-04		1.3	4.2	0.86		U	5.6
Mar-05		U	4.7	0.88		U	6.2
May-05		U	4.6	N.S.		U	5
Aug-05		U	4.6	0.93		U	6.4
Nov-05		U	4.1	0.65		U	5.6
Feb-06		U	4.2	0.92		U	5.4
May-06		U	4	0.71	73.6		4.8
Aug-06		U	3.9	0.889		U	4.6
Nov-06		U	3.8	0.813		U	4.2
Feb-07		1.5	3.8	0.895		U	4.5
May-07		U	3.9	0.858		U	4.7
Aug-07		U	3.8	0.833		U	4.7
Nov-07		U	3.8	0.759		U	4.4
Feb-08		U	3.9	0.93		U	5.6
May-08		U	3.9	0.5		U	5
Aug-08		U	3.6	1		U	4.4
Nov-08		U	3.8	0.61		U	4.8
Feb-09		U	3.8	0.9		U	5.6
May-09		U	3.8	0.9		U	5.5
Aug-09		U	3.5	0.78		U	4.7
Nov-09		U	3.8	0.7		U	5.1
Feb-10		U	3.7	0.94		U	4.95
Apr-10		U	3.9	0.9		U	4.95
Jul-10		U	2.9	0.94		U	5.075
Nov-10		U	3.5	0.83		U	5.15
Feb-11		U	3.6	0.85		U	4.6
Apr-11		U	3.5	0.94		U	4.1
Aug-11		U	3.6	0.95		U	3.4
Nov-11		U	3.4	0.84		U	3.9
Feb-12		U	5.1	1	0.54		7
May-12		1.5	3.3	0.93	0.056		1.6
Aug-12		0.63	3.4	1.1	U		4.4
Oct-12		2.0	3.3	0.82	U		4.5
Feb-13		1.9	3.3	0.86	U		4
May-13		1.7	3.3	1.3	U		4.2
Jul-13		0.8	3.2	1.1	90.8		4
Nov-13		2.0	1.8	0.96	U		3.2
Feb-14		1.7	3.1	1.1	U		3.9
Apr-14		1.6	2.9	0.91	U		3.8
Jul-14		0.41	2.3	1.2	U		3.3
Nov-14		1.6	2.8	0.95	U		4.0
Feb-15		1.5	3.1	0.89	U		3.8

TEST 2
STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Fluoride					
<u>Date</u>	Upgradient Well		Downgradient Wells		
	<u>Well 167</u>	Well 104	Well 114	Well 131	Well 168
May-15	<i>U</i>	3.1	1.5	<i>U</i>	3.5
Jul-15	0.93	2.9	0.95	0.19	3.7
Nov-15	1.0	2.7	0.92	<i>U</i>	3.7
Test 2 Results					
	Well 167	Well 104	Well 114	Well 131	Well 168
Pre-2015 Mean	1.1128	5.0084	0.8839	5.7490	5.9756
2015 Mean	1.1433	2.9500	1.0650	0.1900	3.6750
1991-2015 Statistical Summary					
Mean	1.12	4.92	0.89	5.57	5.86
Median	1.30	4.30	0.85	0.20	4.93
Standard Deviation	0.64	2.42	0.59	20.58	6.25
Kurtosis	-1.51	14.04	77.60	13.53	49.27
Skewness	-0.20	3.21	8.47	3.80	6.77
Minimum	0.10	1.80	0.49	0.06	1.60
Maximum	2.00	19.00	6.30	90.80	54.40
Count	21	97	92	31	80

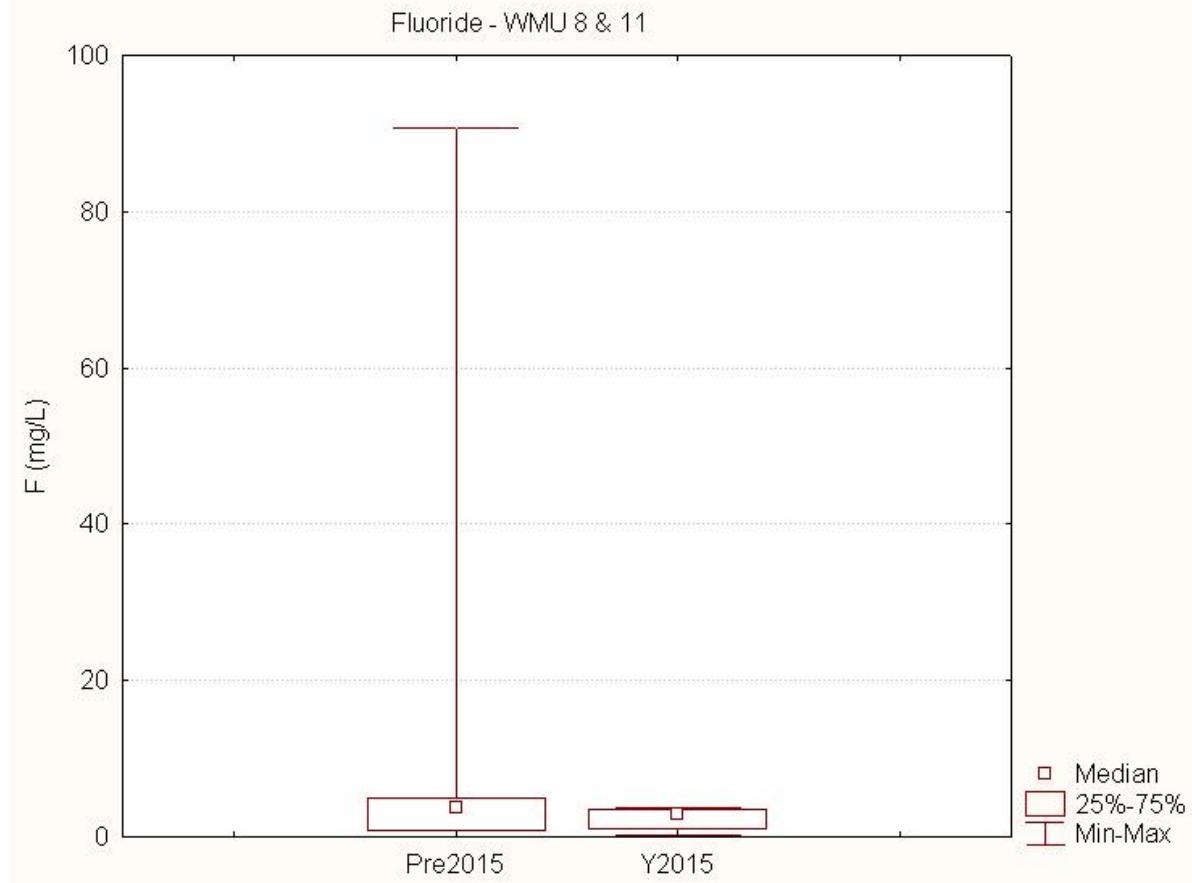
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

WMU 8 & 11 TEST 3 FLUORIDE

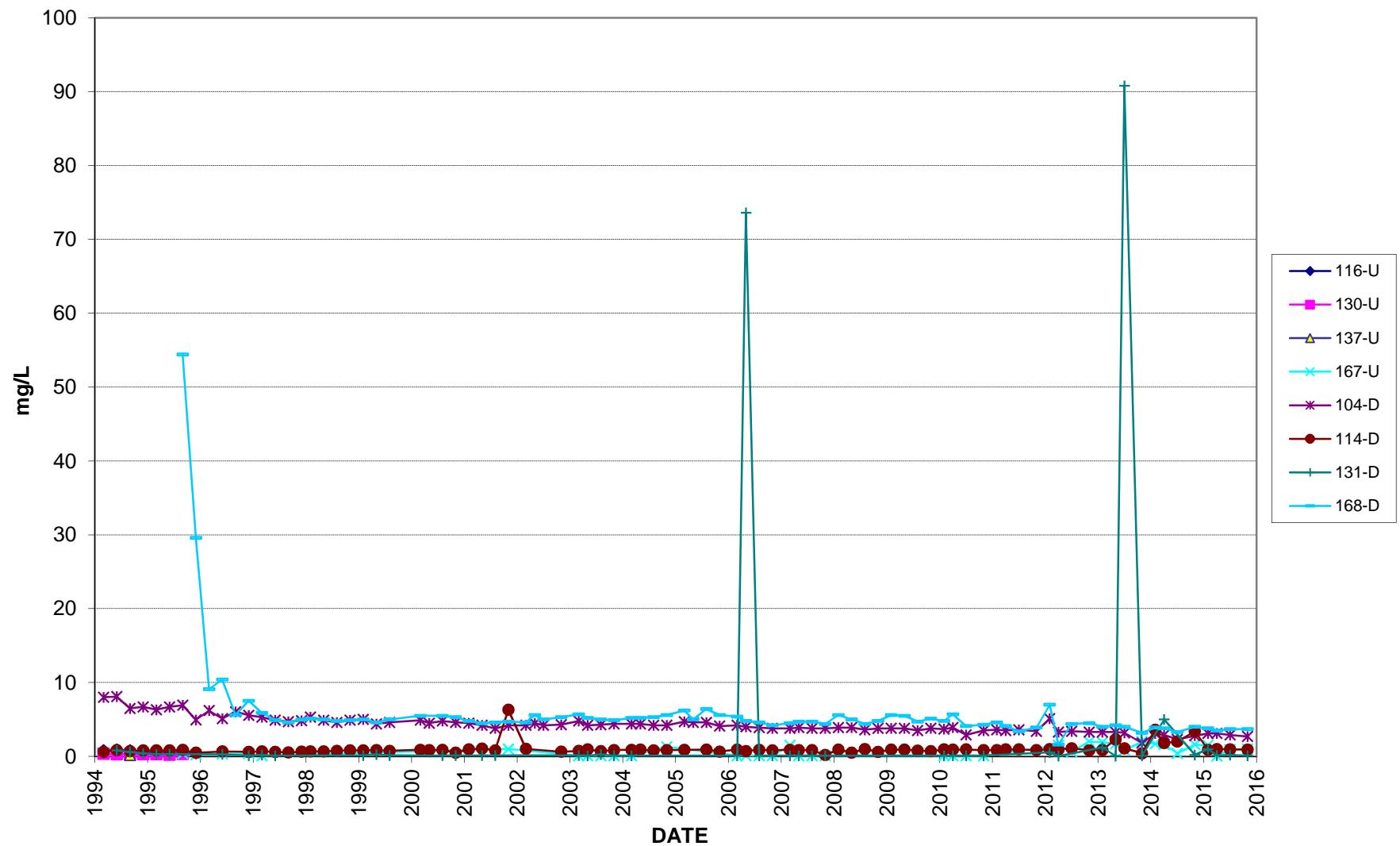
Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Pre-2015	287	3.80	43627.0	1432.0	1.42	0.16
Year 2015	13	2.90	1523.0			

Summary: For downgradient wells, the median of Pre-2015 fluoride concentration is not significantly different from the median of Year 2015 fluoride concentration.



Fluoride in Groundwater (WMU 8 & 11)

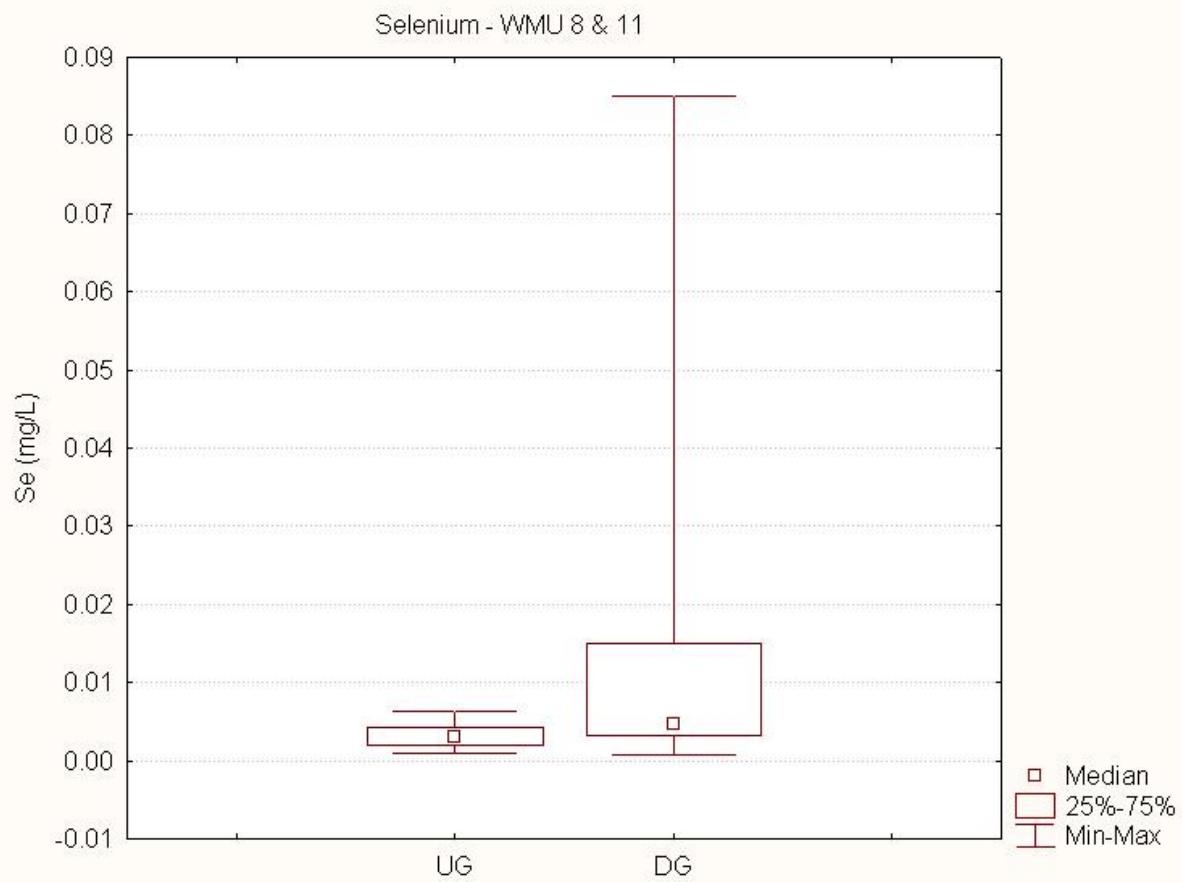


WMU 8 & 11 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	36	0.0030	3236.5	2570.5	-4.11	<0.0001
Downgradient	248	0.0046	37233.5			

Summary: The median selenium concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Selenium

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>			
	<u>Well 167</u>	<u>Well 104</u>	<u>Well 114</u>	<u>Well 131</u>	<u>Well 168</u>
Sep-91	N.S.	0.002	0.002	0.002	N.S.
Dec-91	N.S.	0.002	0.003	0.003	N.S.
Mar-92	N.S.	0.002	0.002	0.003	N.S.
Jun-92	N.S.	U	U	U	N.S.
Sep-92	N.S.	U	U	0.001	N.S.
Dec-92	N.S.	0.002	U	0.003	N.S.
Mar-93	N.S.	0.0040	0.0037	0.0060	N.S.
Jun-93	N.S.	U	0.0026	U	N.S.
Sep-93	N.S.	0.0030	0.0028	0.0050	N.S.
Dec-93	N.S.	0.0020	U	0.0040	N.S.
Mar-94	N.S.	U	U	U	N.S.
Jun-94	N.S.	U	0.0074	U	N.S.
Sep-94	N.S.	U	U	U	N.S.
Dec-94	N.S.	U	U	0.0020	N.S.
Mar-95	N.S.	U	0.0020	0.0020	N.S.
Jun-95	N.S.	U	0.0050	U	N.S.
Sep-95	U	U	U	U	0.0120
Dec-95	0.0030	U	U	0.0060	0.0140
Mar-96	U	U	U	U	0.0200
Jun-96	0.0040	U	U	0.0040	0.0170
Sep-96	U	0.0040	0.0034	0.0040	0.0170
Dec-96	U	0.0040	0.0039	U	0.0170
Mar-97	0.0059	U	0.0042	0.0087	0.0180
Jun-97	U	U	U	0.0054	0.0200
Sep-97	U	U	U	U	0.0200
Dec-97	0.0037	U	U	0.0034	0.0170
Feb-98	U	U	0.0043	0.0052	0.0190
May-98	0.0035	0.0036	U	U	0.0160
Aug-98	U	U	0.0048	U	0.0150
Nov-98	U	0.0080	0.0043	U	0.0130
Feb-99	U	0.0037	U	0.0056	0.0190
May-99	U	U	U	U	0.0160
Aug-99	U	0.0038	0.0041	0.0049	0.0158
Nov-99	0.0064	U	U	0.0064	0.0171
Mar-00	U	U	U	U	0.0179
May-00	U	U	U	U	0.0152
Aug-00	U	U	U	U	0.0130
Nov-00	U	U	U	U	0.0158
Feb-01	U	U	0.0035	U	0.0144
May-01	0.0058	U	U	0.0061	0.0174
Aug-01	U	U	U	U	0.0109
Nov-01	U	0.0048	U	0.0042	0.0171
Mar-02	U	0.0040	U	0.0063	0.0148
May-02	0.0061	0.0044	0.0045	0.0054	0.0156
Jul-02	U	0.0050	U	0.0029	0.0159
Nov-02	0.0046	0.0048	0.0049	0.0049	0.0168
Mar-03	0.0046	0.0033	U	U	U
May-03	0.0038	U	0.0041	0.0064	0.0128
Aug-03	U	U	0.0047	0.0064	0.0150

STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Selenium

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>			
	<u>Well 167</u>	<u>Well 104</u>	<u>Well 114</u>	<u>Well 131</u>	<u>Well 168</u>
Nov-03	U	U	0.0050	0.0042	0.0130
Mar-04	0.0040	0.0033	0.0043	0.0054	0.0143
May-04	0.0036	0.0033	0.0034	0.0048	0.0153
Aug-04	U	U	U	U	0.0110
Nov-04	0.0050	0.0038	0.0050	0.0037	0.0136
Mar-05	U	0.0027	0.0042	0.0039	0.0150
May-05	U	U	0.0028	0.0040	0.0157
Aug-05	U	0.0042	0.0026	0.0039	0.0135
Nov-05	U	U	U	U	0.0148
Feb-06	U	0.0034	0.0038	0.0044	0.0133
May-06	0.0041	U	0.0043	0.0044	0.0157
Aug-06	0.0052	0.0069	0.0037	0.0081	0.0242
Nov-06	0.0030	U	0.0034	0.0035	0.0269
Feb-07	U	U	U	0.0042	0.0264
May-07	0.0040	0.0041	0.0043	0.0074	0.0279
Aug-07	0.0045	0.0046	0.0039	0.0047	0.0297
Nov-07	U	0.0029	U	U	0.0346
Feb-08	U	0.0039	0.0044	U	0.0309
May-08	0.0027	U	U	0.0052	0.0335
Aug-08	U	U	U	U	0.0365
Nov-08	U	U	U	U	0.0398
Feb-09	U	0.0046	U	0.0063	0.0483
May-09	U	0.0064	U	U	0.0480
Aug-09	U	0.0063	0.0054	U	0.0611
Nov-09	U	U	U	U	0.0674
Feb-10	U	U	U	U	0.0711
Apr-10	U	U	U	U	0.0734
Jul-10	U	U	U	0.0044	0.0606
Nov-10	U	U	0.0046	U	0.0765
Feb-11	U	U	U	U	0.0704
Apr-11	U	0.0051	0.0054	U	0.0761
Aug-11	U	0.0041	0.0053	U	0.0800
Nov-11	U	0.0057	U	0.0043	0.0820
Feb-12	0.0010	0.0018	0.0013	0.0007	0.0412
May-12	0.0015	0.0025	0.0019	0.0011	0.0586
Aug-12	0.0019	0.0031	0.0021	0.0008	0.070
Oct-12	0.0020	0.0030	0.0019	0.0011	0.076
Feb-13	0.0021	0.0035	0.0026	0.0011	0.082
May-13	0.0022	0.0037	0.0027	0.0011	0.007
Jul-13	0.0021	0.0030	0.0022	0.0009	0.073
Nov-13	0.0020	0.0033	0.0025	U	0.085
Feb-14	0.0018	0.0033	0.0022	0.0007	0.067
Apr-14	0.0022	0.0037	0.0021	0.0008	0.070
Jul-14	0.0024	0.0035	0.0024	0.0010	0.084
Nov-14	0.0018	0.0028	0.0023	U	0.065
Feb-15	0.0024	0.0035	0.0024	0.00078	0.073
May-15	0.0022	0.0035	0.0022	0.00083	0.076
Jul-15	0.0019	0.0031	0.0021	0.00078	0.064

TEST 2

STATISTICS FOR PHASE IV PONDS & POND 8E (WMU 8 AND 11)

Selenium						
<u>Date</u>	Upgradient Well	Downgradient Wells				
	Well 167	Well 104	Well 114	Well 131	Well 168	
Nov-15	0.0021	0.0032	0.0018	0.00071	0.074	
Test 2 Results						
	Well 167	Well 104	Well 114	Well 131	Well 168	
Pre-2015 Mean	0.0035	0.0038	0.0036	0.0040	0.0334	
2015 Mean	0.0022	0.0033	0.0021	0.0008	0.0718	
1991-2015 Statistical Summary						
Mean	0.0033	0.0038	0.0035	0.0038	0.035	
Median	0.0030	0.0036	0.0035	0.0040	0.019	
Standard Deviation	0.0015	0.0013	0.0013	0.0021	0.026	
Kurtosis	-0.750	2.018	0.026	-0.802	-1.154	
Skewness	0.557	1.138	0.469	0.039	0.751	
Minimum	0.0010	0.0018	0.0013	0.0007	0.0068	
Maximum	0.0064	0.0080	0.0074	0.0087	0.0850	
Count	36	52	55	60	81	

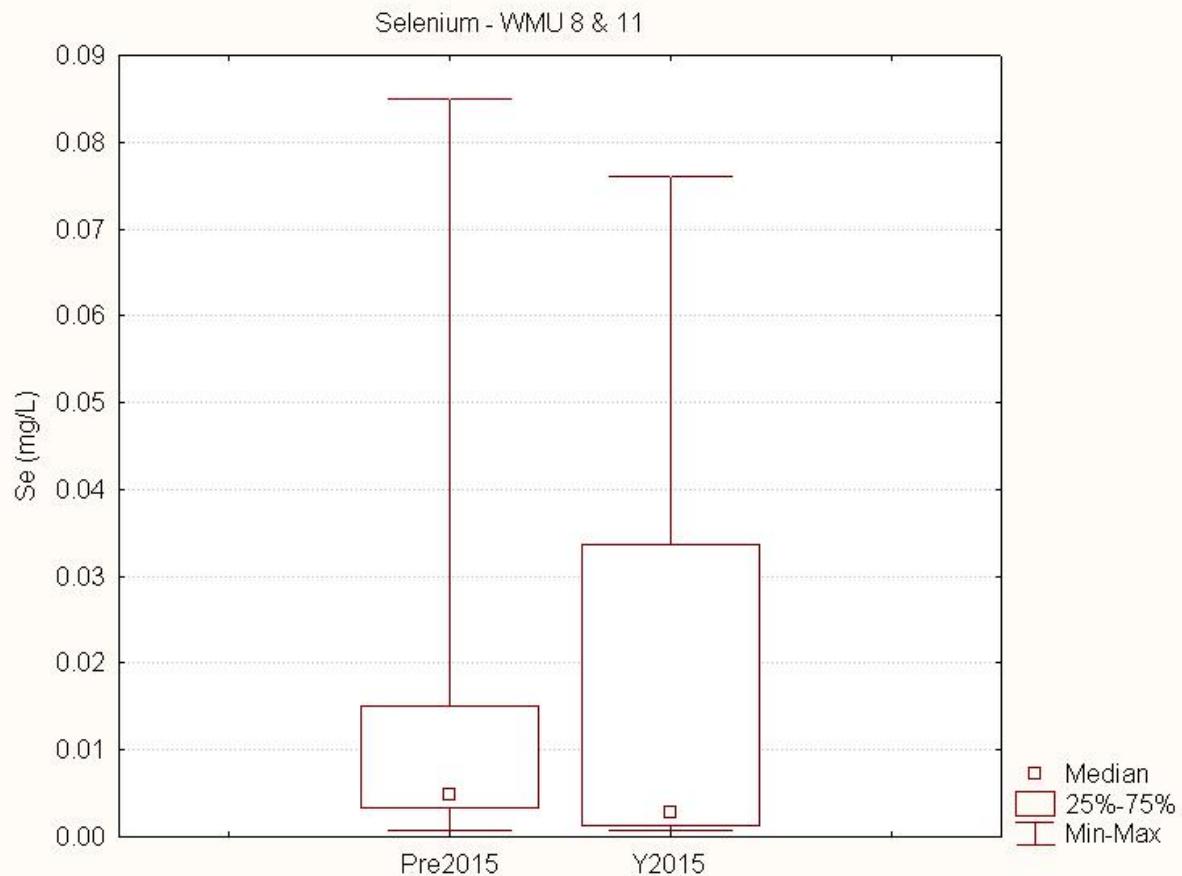
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

WMU 8 & 11 TEST 3 SELENIUM

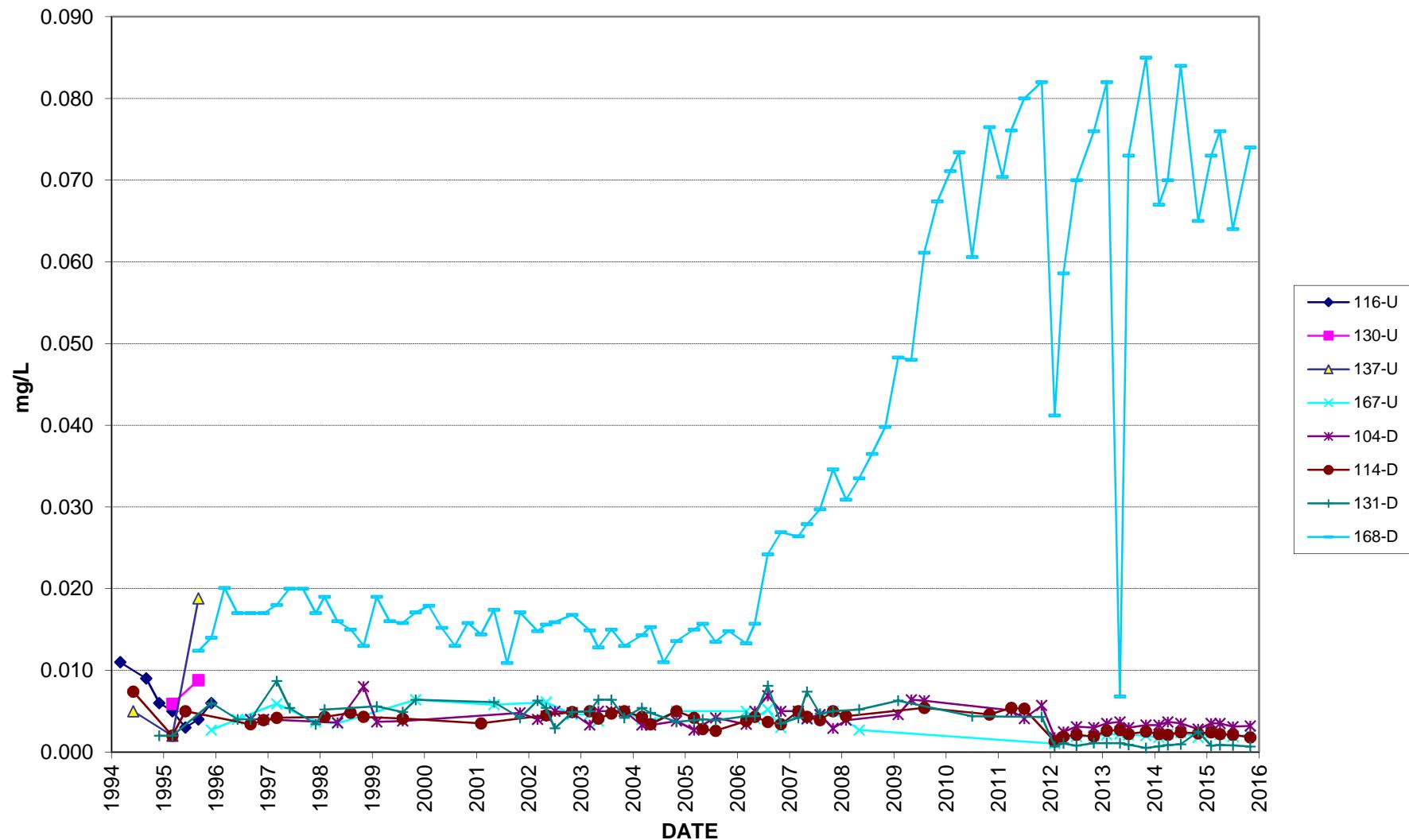
Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Pre-2015	232	0.0048	29506.5	1233.5	2.24	0.025
Year 2015	16	0.0028	1369.5			

Summary: For downgradient wells, the median of Pre-2015 selenium concentration is significantly higher than the median of Year 2015 selenium concentration.



Selenium in Groundwater (WMU 8 & 11)



POND 9E

Waste Management Unit 9

Note:

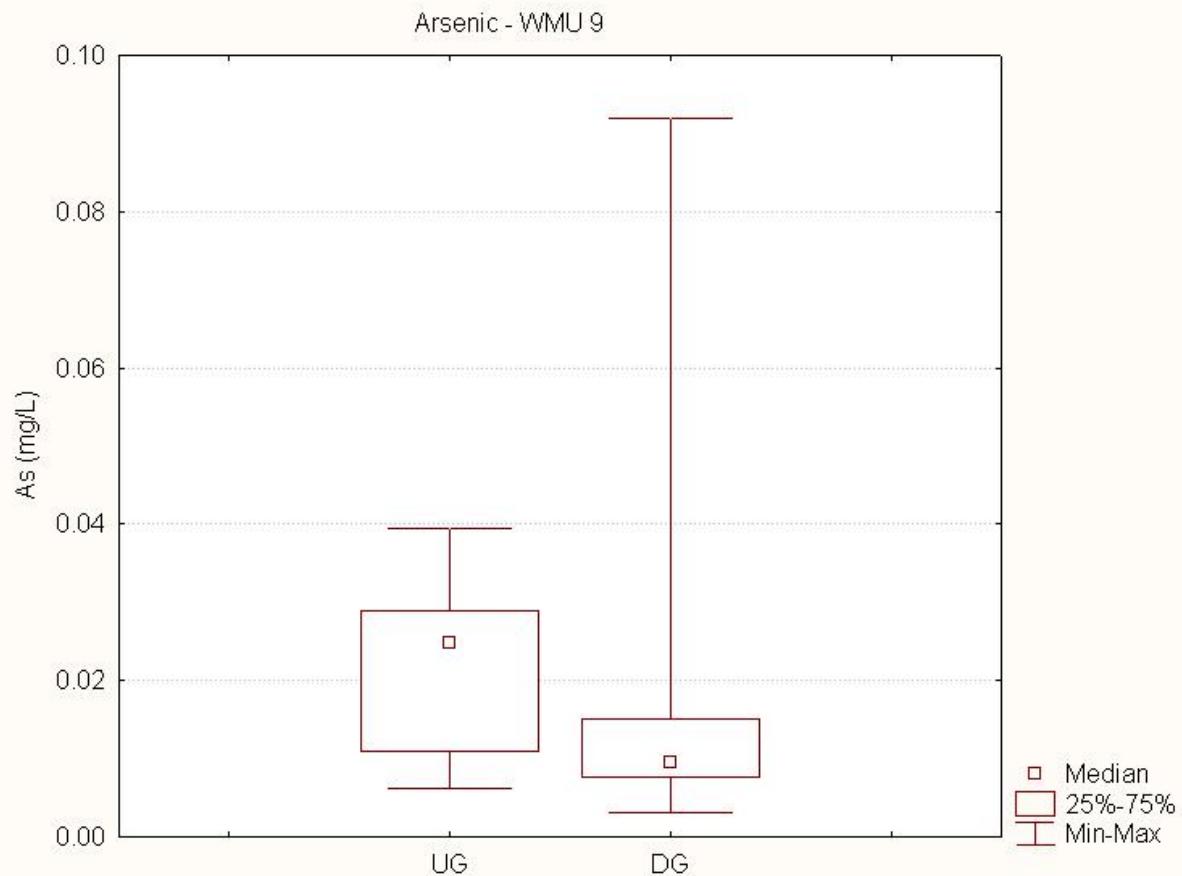
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 9 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	180	0.025	52508.5	9861.5	10.17	<0.0001
Downgradient	256	0.0096	42757.5			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically lower than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 9E (WMU 9)

Page 1 of 3

Arsenic

Date	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	Well 113	Well 124	Well 126	Well 127	Well 128
Sep-91	0.0366	0.0140	0.0080	0.0120	0.0250
Dec-91	0.0382	0.0160	0.0080	0.0120	0.0240
Mar-92	0.0349	0.0150	0.0080	0.0110	0.0230
Jun-92	0.0308	0.0170	U	0.0920	0.0250
Sep-92	0.0303	U	U	0.0120	0.0240
Dec-92	0.0321	U	U	U	0.0260
Mar-93	0.0394	0.0130	0.0130	0.0060	0.0250
Jun-93	0.0291	0.0120	0.0100	0.0080	0.0240
Sep-93	0.0350	0.0080	0.0060	0.0090	0.0190
Dec-93	0.0276	0.0120	0.0080	0.0100	0.0180
Mar-94	0.0372	U	U	U	0.0240
Jun-94	0.0271	0.0100	0.0070	0.0090	0.0140
Sep-94	0.0198	0.0110	0.0080	0.0050	0.0190
Dec-94	0.0362	0.0100	0.0100	0.0070	0.0180
Mar-95	0.0250	0.0140	0.0100	0.0120	0.0200
Jun-95	0.0257	0.0130	U	U	0.0200
Sep-95	U	0.0087	0.0060	0.0040	0.0140
Dec-95	0.0267	U	U	U	U
Mar-96	0.0281	0.0110	0.0080	0.0090	0.0190
Jun-96	0.0278	0.0120	0.0070	0.0090	0.0210
Sep-96	0.0320	0.0130	0.0110	0.0110	0.0220
Dec-96	U	U	U	0.0120	U
Mar-97	0.0270	0.0120	0.0069	0.0077	0.0170
Jun-97	0.0320	U	U	U	0.0200
Sep-97	0.0350	0.0100	0.0120	0.0072	0.0190
Dec-97	0.0290	U	U	U	U
Feb-98	0.0270	U	U	U	0.0190
May-98	0.0300	0.0110	0.0079	0.0096	0.0200
Aug-98	0.0270	0.0150	0.0089	0.0094	0.0200
Nov-98	0.0290	0.0130	0.0059	0.0096	0.0200
Feb-99	0.0300	0.0140	0.0110	0.0098	0.0200
May-99	0.0340	0.0130	U	U	0.0210
Aug-99	0.0281	0.0111	0.0062	0.0075	0.0195
Nov-99	0.0311	0.0139	0.0091	0.0097	0.0194
Mar-00	0.0305	U	U	U	0.0179
May-00	0.0306	0.0102	0.0071	0.0088	0.0170
Aug-00	0.0286	0.0131	U	U	0.0184
Nov-00	0.0337	0.0139	0.0095	0.0106	0.0224
Feb-01	0.0303	0.0102	0.0057	0.0096	0.0177
May-01	0.0307	0.0113	0.0076	0.0120	0.0200
Aug-01	0.0275	0.0130	0.0092	0.0083	0.0218
Nov-01	0.0281	0.0114	0.0077	0.0103	0.0182
Mar-02	0.0313	0.0111	0.0079	0.0087	0.0179
May-02	0.0290	U	U	U	0.0168
Jul-02	0.0316	U	U	U	0.0218
Nov-02	0.0298	0.0111	0.0089	0.0072	0.0166
Mar-03	0.0282	U	U	U	U
May-03	0.0286	0.0111	0.0075	0.0081	0.0173
Aug-03	0.0292	0.0115	U	U	0.0179

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Arsenic

Date	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	Well 113	Well 124	Well 126	Well 127	Well 128
Nov-03	0.0097	0.0282	0.0070	0.0083	0.0119
Mar-04	0.0316	0.0118	0.0088	0.0084	0.0184
May-04	0.0303	0.0109	0.0093	0.0108	0.0177
Aug-04	0.0273	0.0100	0.0076	0.0083	0.0145
Nov-04	0.0281	0.0095	0.0082	0.0084	0.0158
Mar-05	0.0327	0.0103	0.0082	0.0100	0.0179
May-05	0.0317	0.0115	0.0087	0.0094	0.0182
Aug-05	0.0331	0.0131	0.0093	0.0108	0.0190
Nov-05	0.0284	0.0110	0.0075	0.0089	0.0146
Feb-06	0.0295	0.0086	0.0085	0.0085	0.0159
May-06	0.0282	0.0109	0.0090	0.0080	0.0177
Aug-06	0.0330	0.0132	0.0120	0.0114	0.0208
Nov-06	0.0291	0.0100	0.0081	0.0081	0.0150
Feb-07	0.0275	0.0096	0.0076	0.0080	0.0156
May-07	0.0266	0.0107	0.0104	0.0075	0.0157
Aug-07	0.0276	0.0096	0.0062	0.0061	0.0149
Nov-07	0.0236	0.0066	0.0041	0.0031	0.0101
Feb-08	0.0283	U	U	U	0.0145
May-08	0.0211	U	U	0.0053	0.0198
Aug-08	0.0283	0.0095	0.0084	0.0075	0.0145
Nov-08	0.0267	0.0105	0.0092	0.0083	0.0133
Feb-09	0.0271	0.0116	0.0088	0.0064	0.0135
May-09	0.0245	0.0104	0.0090	0.0083	0.0154
Aug-09	0.0279	0.0109	0.0061	0.0095	0.0149
Nov-09	0.0304	0.0113	0.0104	0.0096	0.0173
Feb-10	0.0296	0.0103	0.0092	0.0081	0.0165
Apr-10	0.0343	0.0134	0.0110	0.0103	0.0187
Jul-10	0.0296	0.0092	0.0069	0.0065	0.0152
Nov-10	0.0266	0.0103	0.0080	0.0087	0.0144
Feb-11	0.0264	0.0077	0.0072	0.0049	0.0112
Apr-11	0.0300	0.0097	0.0079	0.0068	0.0146
Jul-11	0.0310	0.0110	0.0088	0.0076	0.0140
Nov-11	0.0270	0.0091	0.0070	0.0074	0.0170
Feb-12	0.0213	0.0062	0.0060	0.0062	0.0118
May-12	0.0243	0.0084	0.0070	0.0067	0.0129
Aug-12	0.0250	0.0090	0.0077	0.0071	0.014
Oct-12	0.0260	0.0091	0.0075	0.0072	0.013
Feb-13	0.0270	0.0094	0.0080	0.0076	0.015
May-13	0.0290	0.0096	0.0078	0.0072	0.014
Aug-13	0.0290	0.0090	0.0075	0.0072	0.014
Nov-13	0.0300	0.0097	0.0083	0.0076	0.015
Feb-14	0.0270	0.0088	0.0075	0.0069	0.013
Apr-14	0.0270	0.0085	0.0074	0.0073	0.014
Jul-14	0.0280	0.0091	0.0079	0.0074	0.015
Nov-14	0.0270	0.0083	0.0076	0.0068	0.013
Feb-15	0.0280	0.0092	0.0079	0.0072	0.014
May-15	0.0270	0.0120	0.0077	0.0077	0.019

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Arsenic

Date	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	Well 113	Well 124	Well 126	Well 127	Well 128
Jul-15	0.0260	0.0086	0.0075	0.0071	0.014
Nov-15	0.0280	0.0085	0.0073	0.0067	0.013

Test 2 Results

	Well 113	Well 124	Well 126	Well 127	Well 128
Pre-2015 Mean	0.0291	0.0112	0.0082	0.0095	0.0176
2015 Mean	0.0273	0.0096	0.0076	0.0072	0.0150

1991-2015 Statistical Summary

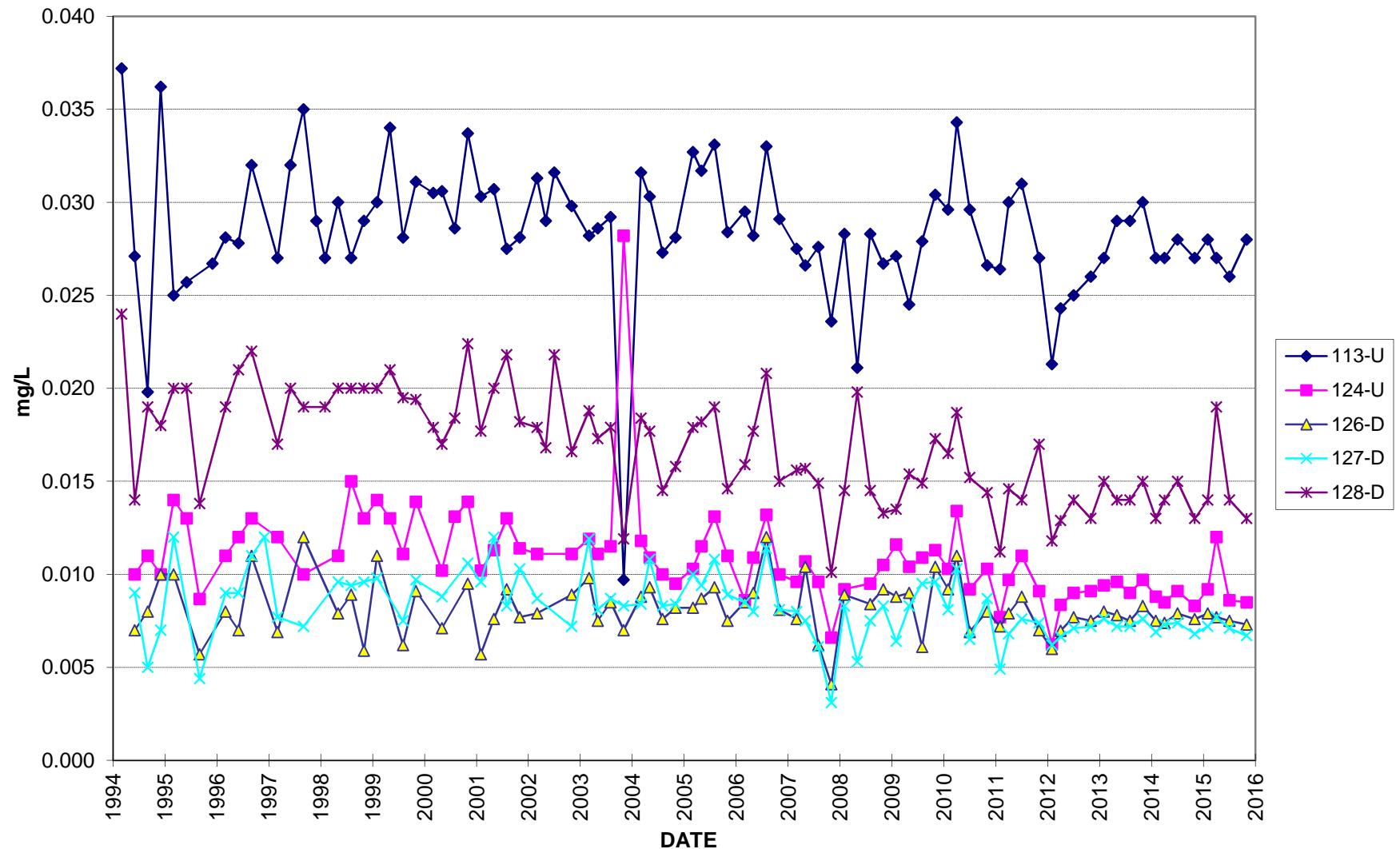
Mean	0.029	0.011	0.008	0.009	0.017
Median	0.029	0.011	0.008	0.008	0.018
Standard Deviation	0.004	0.003	0.002	0.009	0.004
Kurtosis	5.667	16.240	1.276	76.334	-0.399
Skewness	-0.857	2.918	0.643	8.563	0.386
Minimum	0.010	0.006	0.004	0.003	0.010
Maximum	0.039	0.028	0.013	0.092	0.026
Count	96	84	79	83	94

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Arsenic in Groundwater (WMU 9)

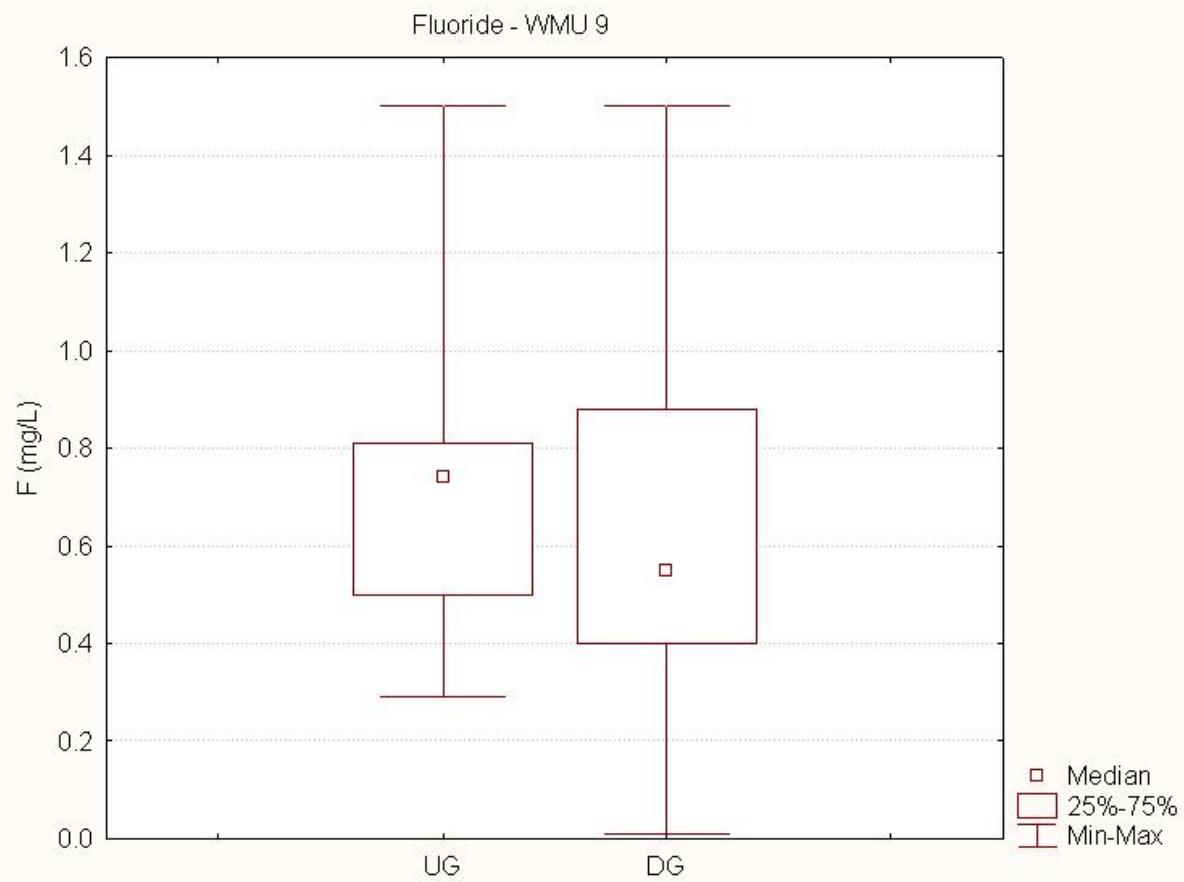


WMU 9 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	188	0.74	49167.5	21990.5	3.24	0.0012
Downgradient	284	0.55	62460.5			

Summary: The median fluoride concentration of downgradient (DG) wells is statistically lower than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Fluoride

<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Sep-91	0.8	0.7	0.8	0.2	0.2
Dec-91	0.96	0.86	0.96	0.32	0.33
Mar-92	1	0.938	1.07	0.389	0.34
Jun-92	0.772	0.757	0.842	0.249	0.275
Sep-92	0.77	0.76	0.87	0.29	0.28
Dec-92	0.8	0.8	0.9	0.3	0.3
Mar-93	0.8	0.9	0.9	0.3	0.3
Jun-93	0.8	0.8	1	0.4	0.3
Sep-93	0.8	0.8	0.8	0.3	0.3
Dec-93	0.7	0.8	0.9	0.4	0.3
Mar-94	0.8	0.8	1	0.4	0.3
Jun-94	0.76	0.846	0.96	0.38	0.324
Sep-94	0.7	0.9	0.9	0.4	0.4
Dec-94	0.8	0.806	0.9	0.4	0.3
Mar-95	0.764	0.786	0.852	0.374	0.296
Jun-95	0.704	0.864	0.878	0.38	0.308
Sep-95	0.848	0.906	0.974	0.486	0.368
Dec-95	0.612	0.806	0.836	0.418	0.322
Mar-96	U	U	0.78	0.406	U
Jun-96	0.736	0.924	0.986	0.504	0.416
Sep-96	U	U	U	U	U
Dec-96	0.62	0.81	0.87	0.42	0.33
Mar-97	0.54	0.8	0.89	0.42	0.28
Jun-97	0.62	0.79	0.88	0.45	0.28
Sep-97	0.55	0.8	0.89	0.48	0.32
Dec-97	0.54	0.76	0.84	0.44	0.3
Feb-98	0.56	0.82	0.85	0.5	0.5
May-98	0.53	0.86	0.93	0.48	0.48
Aug-98	0.53	0.84	0.94	0.47	0.47
Nov-98	0.57	0.87	0.91	0.49	0.49
Feb-99	0.54	0.82	0.93	0.51	0.35
May-99	0.5	0.89	0.84	0.49	0.32
Aug-99	0.55	0.89	0.9	0.53	0.38
Nov-99	U	U	U	U	U
Mar-00	0.56	0.88	0.95	0.57	0.39
May-00	U	U	U	U	U
Aug-00	0.41	0.89	0.94	0.4	0.27
Nov-00	0.52	0.85	0.92	0.52	0.4
Feb-01	0.46	0.76	0.84	0.47	0.34
May-01	0.47	0.73	0.9	0.79	0.37
Aug-01	0.32	0.57	0.59	0.3	0.23
Nov-01	0.46	0.77	0.88	0.62	0.43
Mar-02	0.44	0.85	0.91	0.55	0.41
May-02	0.48	0.85	0.91	0.55	0.38
Jul-02	0.51	0.86	0.96	0.56	0.44
Nov-02	0.68	0.97	0.99	0.82	0.46
Mar-03	0.56	0.93	1.1	0.64	0.02
May-03	0.48	0.83	0.92	0.58	0.42
Aug-03	0.6	0.92	1	0.57	0.47

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Fluoride

<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Nov-03	0.51	0.8	0.91	0.5	0.43
Mar-04	0.5	0.78	0.9	0.59	0.44
May-04	0.48	0.78	0.9	0.53	0.43
Aug-04	0.49	0.82	0.92	0.53	0.39
Nov-04	0.5	0.83	0.97	0.73	0.57
Mar-05	0.5	0.97	1.1	0.81	0.56
May-05	0.56	0.74	0.87	0.65	0.49
Aug-05	0.61	1	1.3	0.55	0.53
Nov-05	0.53	0.79	1	0.58	0.47
Feb-06	0.48	0.82	0.97	0.77	0.64
May-06	0.43	0.71	0.88	0.5	0.46
Aug-06	0.45	0.7	0.87	0.44	0.36
Nov-06	0.42	0.7	0.84	0.4	0.56
Feb-07	0.4	0.7	0.8	0.4	0.3
May-07	0.42	0.7	1	0.5	0.4
Aug-07	0.4	0.9	0.9	0.5	0.3
Nov-07	0.4	0.7	0.9	0.6	0.5
Feb-08	0.6	1	1.1	0.8	0.6
May-08	0.5	1	1.2	0.8	0.7
Aug-08	0.5	0.8	0.9	0.5	0.4
Nov-08	0.5	0.7	0.9	0.4	0.3
Feb-09	0.6	1	1.1	0.7	0.6
May-09	0.5	0.7	0.9	0.5	0.4
Aug-09	0.6	1	1.2	0.8	0.6
Nov-09	0.5	0.8	1	0.6	0.6
Feb-10	0.5	1	1	0.7	0.4
Apr-10	0.6	0.9	1	0.7	0.6
Jul-10	0.5	0.64	1	0.38	0.3
Nov-10	0.46	0.81	0.97	0.58	0.45
Feb-11	0.47	0.92	1.1	0.65	0.48
Apr-11	0.48	0.74	0.89	0.46	0.37
Jul-11	0.43	0.84	0.83	0.57	0.61
Nov-11	0.56	0.74	0.88	0.46	0.36
Feb-12	1.5	1	1.1	0.99	1.5
May-12	0.44	0.82	0.96	0.58	0.45
Aug-12	0.44	0.78	0.93	0.53	0.4
Oct-12	0.44	0.8	0.96	0.56	0.4
Feb-13	0.46	0.8	0.95	0.56	0.4
May-13	0.45	0.78	0.93	0.54	0.4
Aug-13	0.48	0.82	0.98	0.57	0.44
Nov-13	0.29	0.61	0.76	0.49	0.38
Feb-14	0.45	0.76	0.90	0.54	0.41
Apr-14	0.29	0.77	0.90	0.55	0.40
Jul-14	0.33	0.62	0.78	0.40	0.30
Nov-14	0.45	0.75	0.92	0.54	0.39
Feb-15	0.43	0.74	0.87	0.53	0.39
May-15	0.43	0.78	0.94	0.56	0.45

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Fluoride

<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Jul-15	0.45	0.76	0.90	0.56	0.43
Nov-15	0.42	0.74	0.88	0.56	0.40

Test 2 Results

	Well 113	Well 124	Well 126	Well 127	Well 128
Pre-2015 Mean	0.5658	0.8189	0.9303	0.5159	0.4107
2015 Mean	0.4325	0.7550	0.8975	0.5525	0.4175

1991-2015 Statistical Summary

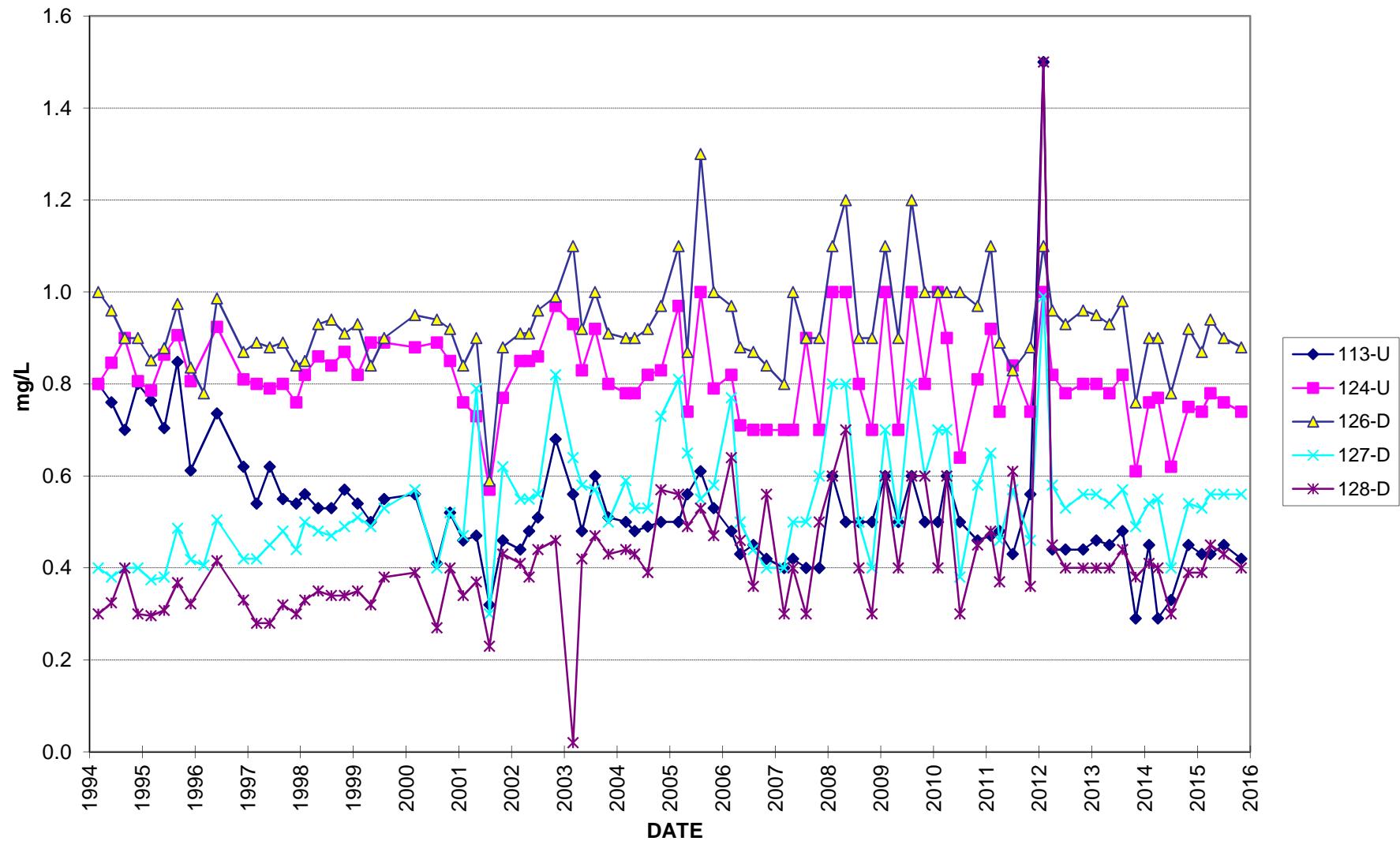
Mean	0.560	0.816	0.929	0.517	0.411
Median	0.500	0.800	0.910	0.504	0.400
Standard Deviation	0.173	0.092	0.098	0.139	0.156
Kurtosis	8.629	0.121	3.226	0.993	25.073
Skewness	2.197	0.106	0.717	0.628	3.679
Minimum	0.290	0.570	0.590	0.200	0.020
Maximum	1.500	1.000	1.300	0.990	1.500
Count	94	94	95	95	94

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Fluoride in Groundwater (WMU 9)

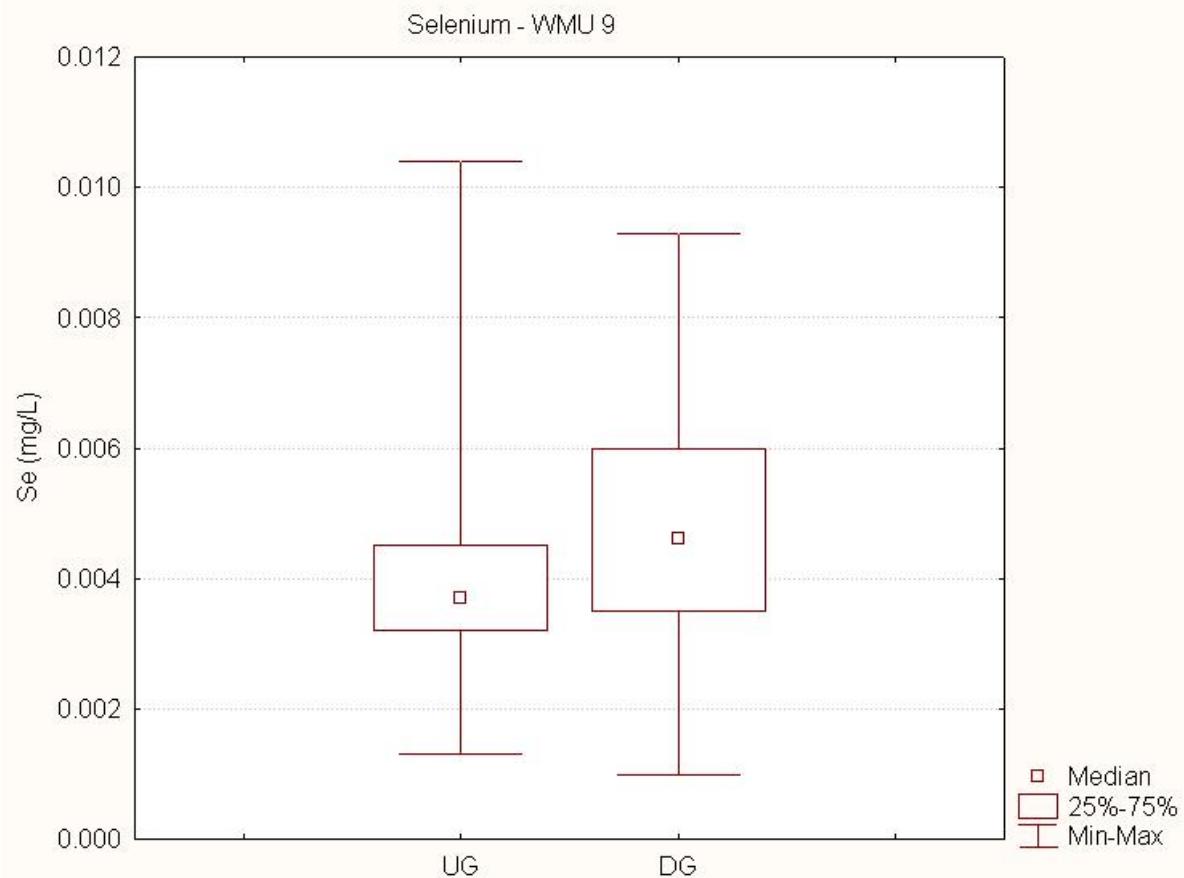


WMU 9 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	114	0.0037	14158.5	7603.5	-4.11	<0.0001
Downgradient	186	0.0046	30991.5			

Summary: The median selenium concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Selenium

<u>Date</u>	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Sep-91	0.0020	0.0040	0.0040	0.0020	0.0020
Dec-91	0.0033	0.0020	0.0030	0.0020	0.0040
Mar-92	0.0020	0.0020	0.0020	0.0030	0.0020
Jun-92	U	U	U	U	U
Sep-92	U	U	U	U	U
Dec-92	U	U	U	U	U
Mar-93	0.0047	U	0.0020	0.0010	0.0010
Jun-93	0.0013	0.0020	U	U	0.0020
Sep-93	0.0023	0.0030	0.0030	0.0060	0.0020
Dec-93	U	0.0020	U	0.0070	U
Mar-94	U	U	U	U	U
Jun-94	0.0076	U	U	U	U
Sep-94	U	U	0.0040	U	0.0040
Dec-94	0.0024	U	U	U	U
Mar-95	U	U	U	U	U
Jun-95	U	0.0020	U	0.0030	U
Sep-95	U	U	0.0020	U	U
Dec-95	U	U	U	0.0030	U
Mar-96	U	U	U	U	U
Jun-96	U	U	U	U	U
Sep-96	U	U	U	0.0050	U
Dec-96	0.0036	U	U	U	U
Mar-97	0.0061	0.0047	0.0053	0.0040	0.0046
Jun-97	0.0043	U	U	U	U
Sep-97	U	0.0042	U	U	0.0057
Dec-97	0.0062	U	U	0.0062	U
Feb-98	0.0036	0.0044	U	0.0049	0.0044
May-98	U	U	U	U	U
Aug-98	U	U	0.0050	0.0075	0.0047
Nov-98	0.0040	0.0028	0.0031	0.0037	0.0039
Feb-99	0.0036	0.0036	0.0037	0.0061	0.0034
May-99	0.0041	U	U	0.0049	U
Aug-99	0.0060	U	U	U	U
Nov-99	0.0049	U	U	U	U
Mar-00	U	U	U	0.0045	U
May-00	U	U	0.0035	0.0027	0.0026
Aug-00	0.0037	U	U	0.0068	U
Nov-00	U	U	0.0049	0.0084	0.0058
Feb-01	U	U	U	U	U
May-01	0.0046	U	U	0.0061	U
Aug-01	U	0.0037	0.0033	0.0074	0.0051
Nov-01	0.0038	U	0.0034	0.0068	0.0048
Mar-02	0.0034	0.0037	U	0.0042	U
May-02	0.0057	0.0041	0.0046	0.0052	0.0036
Jul-02	0.0047	0.0026	0.0024	0.0089	0.0040
Nov-02	U	U	U	0.0035	U
Mar-03	0.0037	U	0.0037	U	0.0050
May-03	U	0.0034	U	0.0044	0.0046
Aug-03	0.0046	0.0052	0.0042	0.0057	0.0040

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Selenium

<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Nov-03	U	U	U	0.0040	U
Mar-04	0.0038	0.0034	U	0.0049	0.0035
May-04	0.0039	U	U	0.0065	0.0042
Aug-04	U	U	U	U	0.0026
Nov-04	U	0.0033	U	0.0038	U
Mar-05	0.0032	0.0026	U	0.0068	0.0039
May-05	0.0024	0.0049	0.0035	0.0044	0.0039
Aug-05	U	0.0040	U	0.0042	0.0032
Nov-05	0.0039	0.0070	0.0037	0.0053	0.0033
Feb-06	0.0041	U	0.0050	0.0064	0.0050
May-06	0.0037	0.0041	0.0027	0.0075	0.0060
Aug-06	0.0066	0.0061	0.0069	0.0092	0.0092
Nov-06	0.0035	0.0029	U	0.0059	0.0072
Feb-07	U	U	U	0.0047	U
May-07	0.0041	0.0055	0.0052	0.0071	0.0039
Aug-07	0.0030	U	U	U	0.0036
Nov-07	0.0052	U	U	0.0054	0.0044
Feb-08	0.0041	0.0041	U	0.0060	0.0077
May-08	U	U	U	0.0046	U
Aug-08	U	U	U	0.0069	U
Nov-08	U	0.0045	0.0049	0.0083	0.0066
Feb-09	0.0080	0.0104	U	0.0069	0.0058
May-09	U	U	0.0041	0.0075	U
Aug-09	U	0.0054	U	0.0072	0.0072
Nov-09	U	U	U	0.0044	0.0064
Feb-10	U	0.0045	U	0.0082	0.0059
Apr-10	U	U	U	0.0072	0.0043
Jul-10	0.0042	0.0056	U	0.0069	0.0054
Nov-10	U	0.0045	U	0.0071	0.0079
Feb-11	U	U	U	0.0053	U
Apr-11	0.0043	0.0071	0.0047	0.0077	0.0063
Jul-11	0.0047	0.0048	0.0054	0.0057	0.0054
Nov-11	0.0061	0.0047	0.0051	0.0093	0.0046
Feb-12	0.0019	0.0014	0.0014	0.0038	0.0027
May-12	0.0025	0.0024	0.0017	0.0045	0.0028
Aug-12	0.0033	0.0032	0.0024	0.0054	0.0044
Oct-12	0.0038	0.0032	0.0026	0.0068	0.0047
Feb-13	0.0032	0.0033	0.0023	0.0063	0.0056
May-13	0.0037	0.0034	0.0022	0.0058	0.0041
Aug-13	0.0038	0.0032	0.0026	0.0062	0.0044
Nov-13	0.0037	0.0035	0.0026	0.0068	0.0057
Feb-14	0.0033	0.0031	0.0019	0.0058	0.0044
Apr-14	0.0045	0.0032	0.0021	0.0063	0.0040
Jul-14	0.0037	0.0033	0.0027	0.0068	0.0043
Nov-14	0.0033	0.0034	0.0025	0.0065	0.0044
Feb-15	0.0035	0.0035	0.0024	0.0065	0.0046
May-15	0.0037	0.0047	0.0024	0.0069	0.0051

TEST 2
STATISTICS FOR POND 9E (WMU 9)

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Selenium

<u>Date</u>	Upgradient Wells		Downgradient Wells		
	<u>Well 113</u>	<u>Well 124</u>	<u>Well 126</u>	<u>Well 127</u>	<u>Well 128</u>
Jul-15	0.0034	0.0034	0.0023	0.0059	0.0037
Nov-15	0.0034	0.0031	0.0022	0.0058	0.0038

Test 2 Results

	Well 113	Well 124	Well 126	Well 127	Well 128
Pre-2015 Mean	0.0040	0.0039	0.0035	0.0057	0.0045
2015 Mean	0.0035	0.0037	0.0023	0.0063	0.0043

1991-2015 Statistical Summary

Mean	0.0040	0.0039	0.0034	0.0057	0.0045
Median	0.0038	0.0035	0.0031	0.0060	0.0044
Standard Deviation	0.0013	0.0015	0.0013	0.0017	0.0015
Kurtosis	1.556	5.664	-0.221	0.042	0.904
Skewness	0.893	1.746	0.679	-0.369	0.490
Minimum	0.001	0.001	0.001	0.001	0.001
Maximum	0.008	0.010	0.007	0.009	0.009
Count	60	54	46	76	64

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

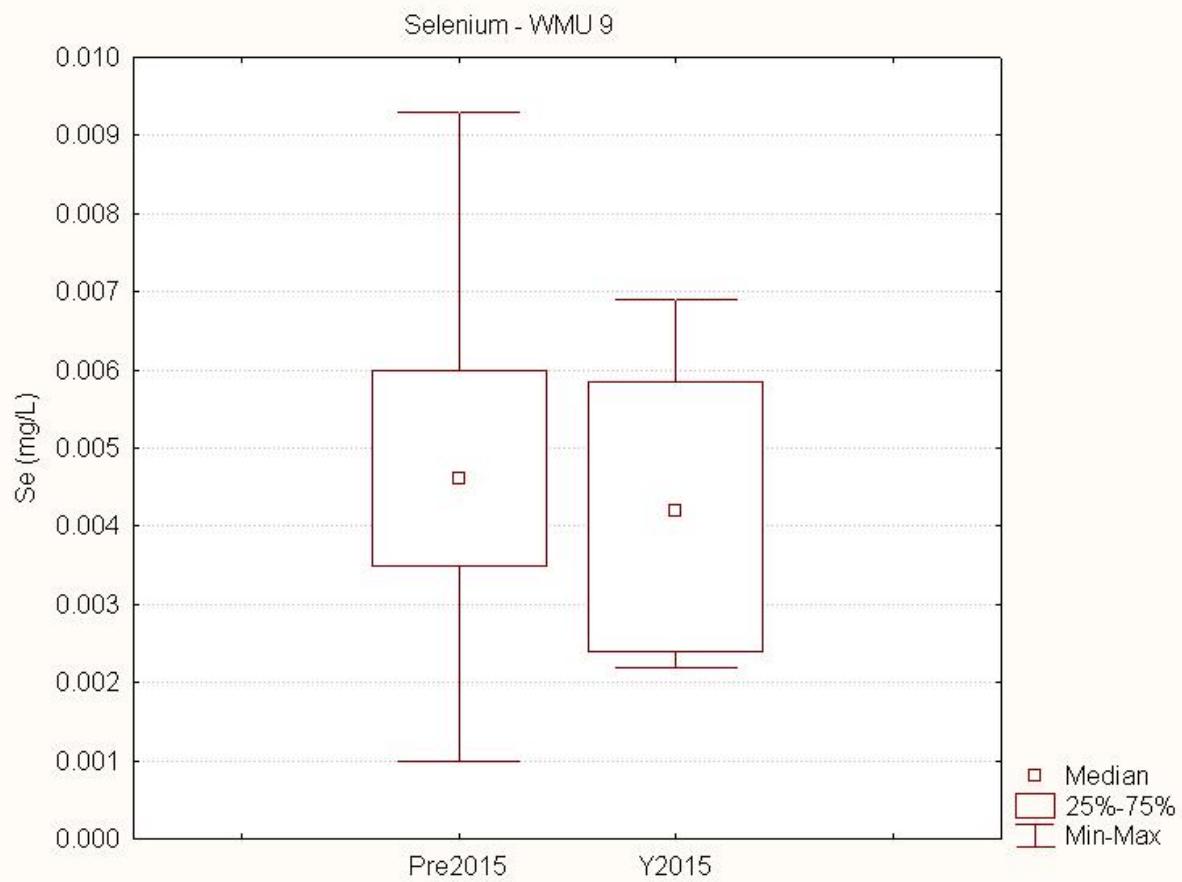
All concentrations in mg/l.

WMU 9 TEST 3 SELENIUM

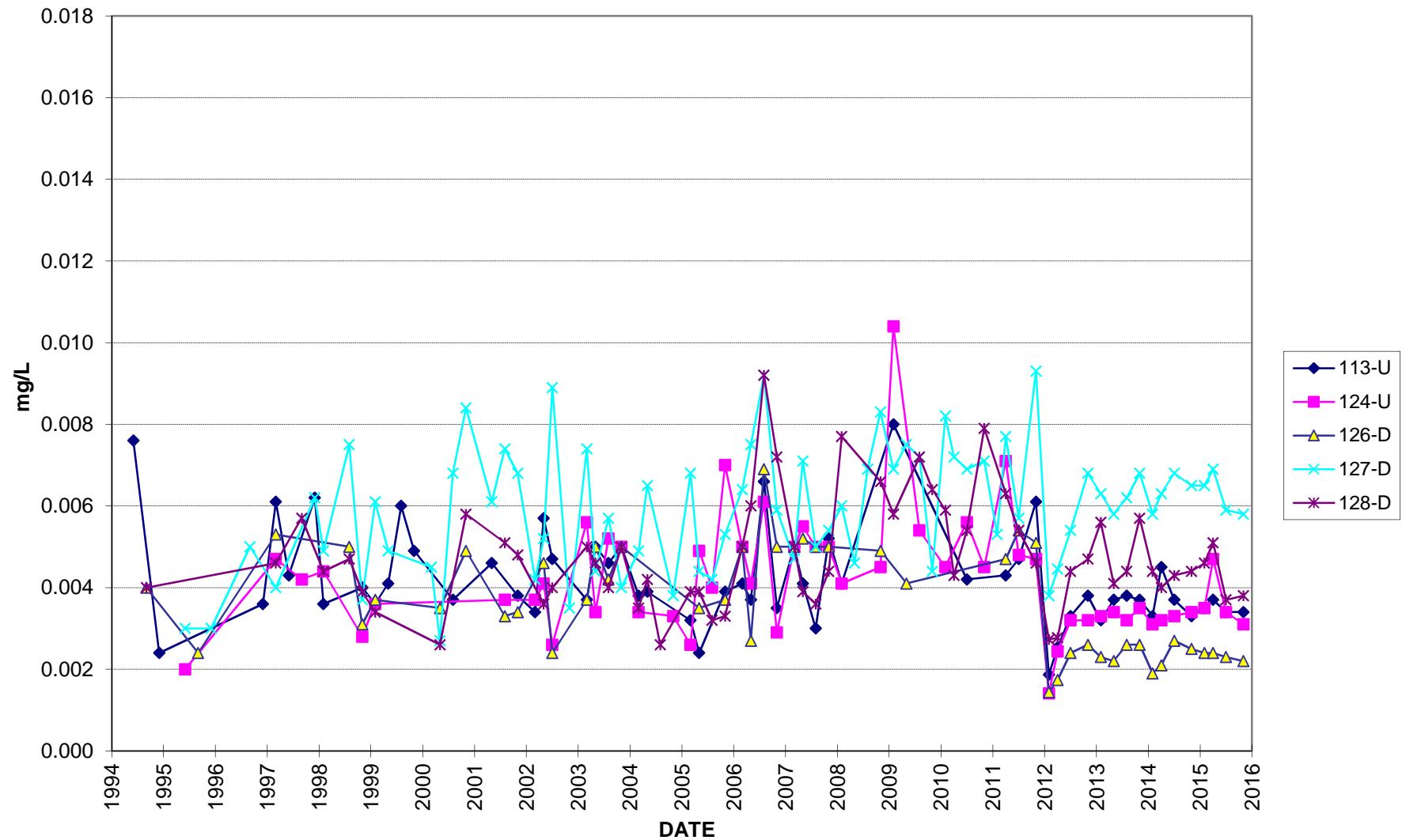
Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Pre-2015	174	0.0046	16393.0	920.0	0.69	0.49
Year 2015	12	0.0042	998.0			

Summary: For downgradient wells, the median of Pre-2015 selenium concentration is not significantly different than the median of Year 2015 selenium concentration.



Selenium in Groundwater (WMU 9)



POND 16S

Waste Management Unit 10

Note:

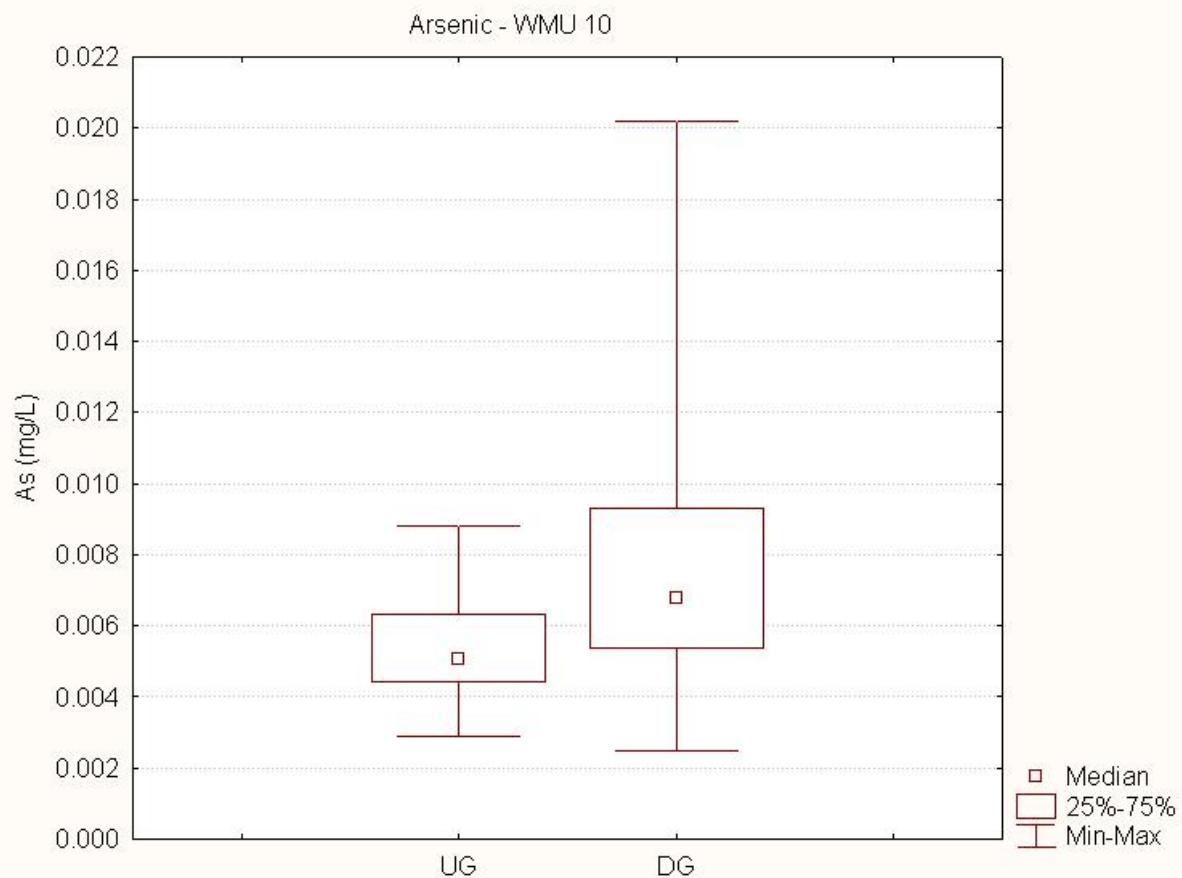
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 10 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	76	0.0051	7791.5	4865.5	-6.16	<0.0001
Downgradient	241	0.0068	42611.5			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 16S (WMU 10)

Arsenic

<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
Jun-92	N.S.	U	U	0.0183
Sep-92	N.S.	U	U	0.0126
Dec-92	U	U	U	U
Mar-93	0.0058	0.0049	0.0088	0.0161
Jun-93	0.0081	0.0063	0.0090	0.0187
Sep-93	U	U	0.0102	0.0114
Dec-93	0.0033	0.0036	0.0069	0.0130
Mar-94	0.0070	0.0054	0.0102	0.0175
Jun-94	0.0068	0.0040	0.0061	0.0095
Sep-94	0.0061	U	0.0054	0.0129
Dec-94	U	U	U	0.0179
Mar-95	0.0031	0.0049	0.0085	0.0107
Jun-95	0.0064	0.0080	0.0053	0.0152
Sep-95	U	U	0.0040	0.0078
Dec-95	0.0029	0.0117	0.0050	0.0202
Mar-96	U	0.0084	0.0095	0.0065
Jun-96	0.0088	U	0.0065	0.0090
Sep-96	U	0.0058	0.0120	0.0140
Dec-96	U	U	U	U
Mar-97	0.0050	0.0025	0.0066	0.0130
Jun-97	U	U	U	0.0140
Sep-97	0.0058	0.0047	0.0075	0.0080
Dec-97	U	U	U	U
Feb-98	U	U	U	U
May-98	0.0078	0.0047	0.0090	0.0120
Aug-98	0.0086	0.0053	0.0088	0.0120
Nov-98	0.0065	0.0031	0.0085	0.0150
Feb-99	0.0048	0.0054	0.0087	0.0150
May-99	0.0068	U	U	0.0140
Aug-99	0.0062	0.0033	0.0063	0.0122
Nov-99	0.0068	0.0060	0.0089	0.0130
Mar-00	U	U	U	U
May-00	0.0073	0.0027	0.0057	0.0112
Aug-00	0.0070	U	U	U
Nov-00	0.0087	0.0067	0.0087	0.0143
Feb-01	0.0064	0.0052	0.0046	0.0134
May-01	0.0045	0.0047	0.0088	0.0097
Aug-01	0.0055	0.0046	0.0070	0.0112
Nov-01	0.0062	0.0034	0.0085	0.0146
Mar-02	0.0052	0.0050	0.0068	0.0139
May-02	0.0049	0.0034	U	0.0101
Jul-02	0.0051	U	0.0114	0.0130
Nov-02	0.0045	0.0045	0.0070	0.0107
Mar-03	U	U	U	U
May-03	0.0045	0.0042	0.0073	0.0097
Aug-03	0.0064	0.0055	U	0.0101
Nov-03	0.0030	0.0069	0.0051	0.0102
Mar-04	0.0063	0.0060	0.0071	0.0106

TEST 2
STATISTICS FOR POND 16S (WMU 10)

Arsenic

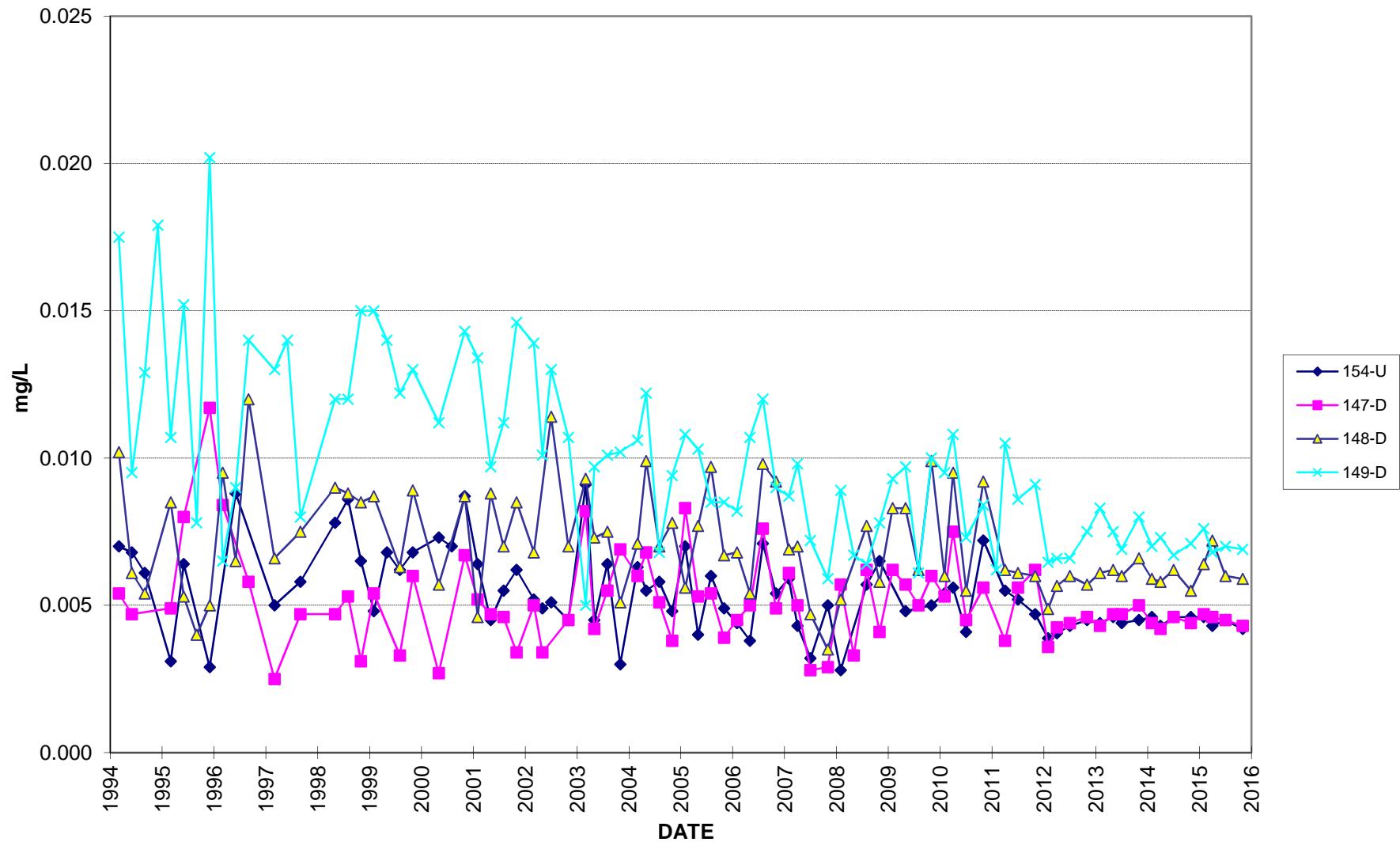
<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
May-04	0.0055	0.0068	0.0099	0.0122
Aug-04	0.0058	0.0051	0.0070	0.0068
Nov-04	0.0048	0.0038	0.0078	0.0094
Feb-05	0.0070	0.0083	0.0056	0.0108
May-05	0.0040	0.0053	0.0077	0.0103
Aug-05	0.0060	0.0054	0.0097	0.0085
Nov-05	0.0049	0.0039	0.0067	0.0085
Feb-06	0.0044	0.0045	0.0068	0.0082
May-06	0.0038	U	0.0054	0.0107
Aug-06	0.0071	0.0076	0.0098	0.0120
Nov-06	0.0054	0.0049	0.0092	0.0090
Feb-07	0.0059	0.0061	0.0069	0.0087
May-07	0.0043	0.0050	0.0070	0.0098
Aug-07	0.0032	0.0028	0.0047	0.0072
Nov-07	U	0.0029	0.0035	0.0059
Feb-08	U	U	U	U
May-08	U	0.0033	U	0.0067
Aug-08	0.0057	0.0062	0.0077	0.0064
Nov-08	0.0065	0.0041	0.0058	0.0078
Feb-09	U	0.0062	0.0083	0.0093
May-09	0.0048	0.0057	0.0083	0.0097
Aug-09	U	0.0050	0.0062	0.0061
Nov-09	0.0050	0.0060	0.0099	0.0100
Feb-10	0.0054	0.0053	0.0060	0.0095
May-10	0.0056	0.0075	0.0095	0.0108
Aug-10	0.0041	0.0045	0.0055	0.0073
Nov-10	0.0072	0.0056	0.0092	0.0084
Feb-11	0.0050	0.0050	U	0.0062
Apr-11	0.0055	0.0038	0.0062	0.0105
Jul-11	0.0052	0.0056	0.0061	0.0086
Nov-11	0.0047	0.0062	0.0060	0.0091
Feb-12	0.0039	0.0036	0.0049	0.0065
May-12	0.0041	0.0043	0.0057	0.0066
Aug-12	0.0043	0.0044	0.0060	0.0066
Oct-12	0.0045	0.0046	0.0057	0.0075
Feb-13	0.0044	0.0043	0.0061	0.0083
May-13	0.0046	0.0047	0.0062	0.0075
Jul-13	0.0044	0.0047	0.0060	0.0069
Nov-13	0.0045	0.0050	0.0066	0.0080
Feb-14	0.0046	0.0044	0.0059	0.0070
Apr-14	0.0043	0.0042	0.0058	0.0073
Jul-14	0.0046	0.0046	0.0062	0.0067
Nov-14	0.0046	0.0044	0.0055	0.0071
Feb-15	0.0046	0.0047	0.0064	0.0076
May-15	0.0043	0.0046	0.0072	0.0068
Jul-15	0.0045	0.0045	0.0060	0.0070
Nov-15	0.0042	0.0043	0.0059	0.0069

TEST 2
STATISTICS FOR POND 16S (WMU 10)

Arsenic				
<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 154	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
Test 2 Results				
	Well 154	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
Pre-2015 Mean	0.0055	0.0051	0.0073	0.0107
2015 Mean	0.0045	0.0044	0.0059	0.0070
1991-2015 Statistical Summary				
Mean	0.005	0.005	0.007	0.011
Median	0.005	0.005	0.007	0.010
Standard Deviation	0.001	0.002	0.002	0.003
Kurtosis	-0.078	4.305	-0.361	0.224
Skewness	0.473	1.416	0.448	0.819
Minimum	0.003	0.003	0.004	0.006
Maximum	0.009	0.012	0.012	0.020
Count	72	72	74	83

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Arsenic in Groundwater (WMU 10)

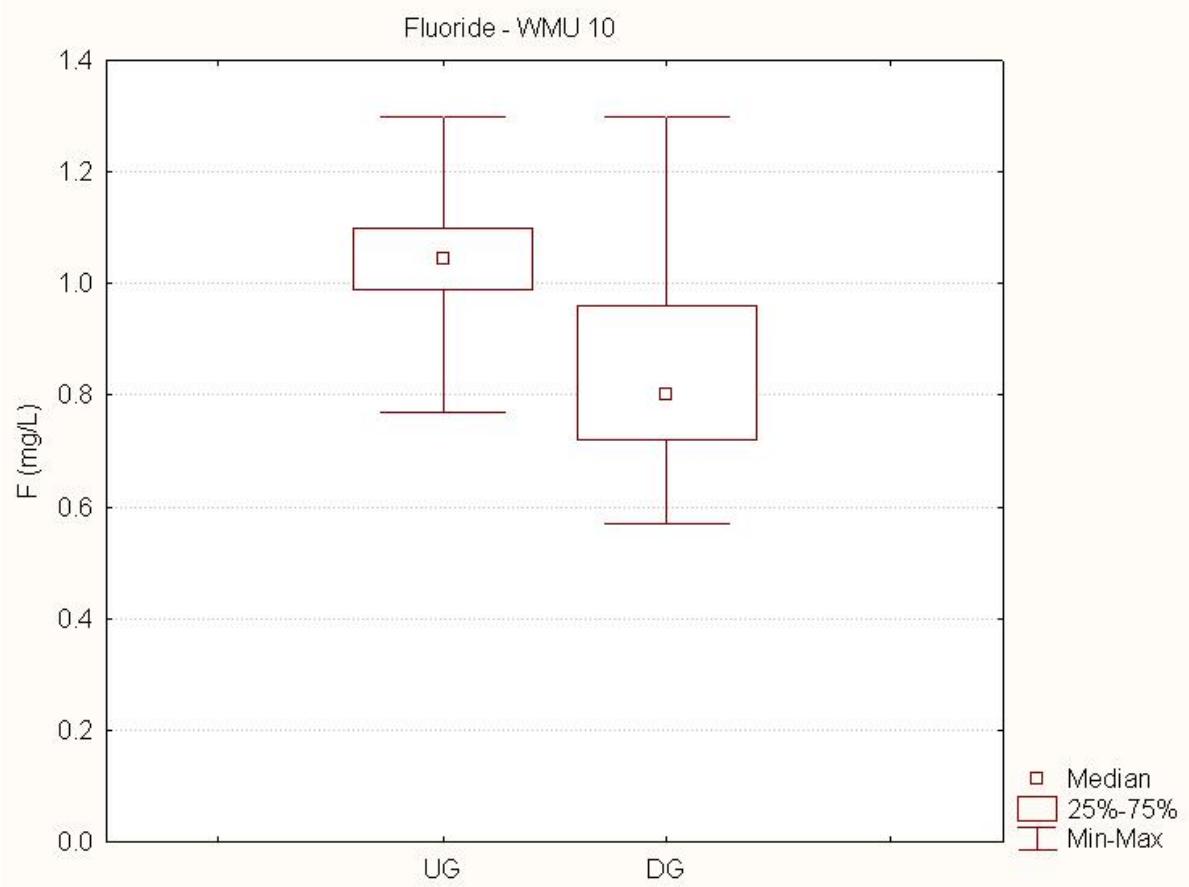


WMU 10 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	92	1.05	26176.0	3586.0	10.33	<0.0001
Downgradient	277	0.800	42089.0			

Summary: The median fluoride concentration of downgradient (DG) wells is statistically lower than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 16S (WMU 10)

Fluoride

<u>Date</u>	<u>Upgradient Well</u>		<u>Downgradient Wells</u>	
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
Jun-92	N.S.	0.778	0.731	1.02
Sep-92	N.S.	0.73	1	1.2
Dec-92	1.2	0.8	0.8	1.1
Mar-93	1.2	0.8	0.8	1.1
Jun-93	1.1	0.8	0.8	1.1
Sep-93	0.9	0.6	0.6	0.9
Dec-93	1.2	0.8	0.8	0.9
Mar-94	1.3	0.8	0.9	1
Jun-94	1.1	0.7	0.7	1
Sep-94	1.1	0.8	0.8	1.1
Dec-94	1.08	0.92	0.8	1.1
Mar-95	1.15	0.806	0.786	0.892
Jun-95	1.19	0.756	0.734	1.1
Sep-95	1.19	0.822	0.812	1.04
Dec-95	0.91	0.606	0.622	0.802
Mar-96	0.936	0.774	0.722	1.25
Jun-96	1.11	0.792	0.87	1.07
Sep-96	1.2	U	U	1.1
Dec-96	1.06	0.71	0.72	0.95
Mar-97	1.04	0.68	0.76	0.9
Jun-97	1.03	0.68	0.7	0.92
Sep-97	0.97	0.7	0.72	0.93
Dec-97	1.01	0.64	0.68	0.74
Feb-98	1.08	0.69	0.73	0.97
May-98	1.08	0.67	0.68	0.92
Aug-98	1.05	0.69	0.68	0.92
Nov-98	1.21	0.73	0.75	1.01
Feb-99	1.04	0.71	0.75	1.01
May-99	1.14	0.68	0.71	0.93
Aug-99	1.10	0.73	0.74	1.00
Nov-99	U	U	U	U
Mar-00	1.10	0.75	0.79	1.00
May-00	1.10	U	U	U
Aug-00	1.10	0.77	0.64	1.00
Nov-00	1.10	0.73	0.76	1.00
Feb-01	0.99	0.64	0.68	0.90
May-01	1.00	0.8	0.6	0.97
Aug-01	1.00	0.64	0.92	0.72
Nov-01	1.10	0.69	0.73	0.94
Mar-02	1.10	0.71	0.76	1.10
May-02	1.10	0.72	0.74	1.00
Jul-02	1.10	0.73	0.79	1.00
Nov-02	1.10	0.94	0.97	1.00
Mar-03	1.00	0.73	0.73	0.98
May-03	1.00	0.71	0.76	1.00
Aug-03	1.00	0.77	0.88	1.20
Nov-03	1.00	0.73	0.77	1.00
Mar-04	1.00	0.74	0.76	1.00

TEST 2
STATISTICS FOR POND 16S (WMU 10)

Fluoride

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
May-04	0.88	0.64	0.74	1.00
Aug-04	0.95	0.72	0.72	1.00
Nov-04	1.00	0.8	0.86	1.00
Feb-05	1.10	0.87	0.89	1.10
May-05	0.88	0.69	0.72	0.96
Aug-05	0.99	0.79	0.81	1.00
Nov-05	1.00	0.82	0.84	1.10
Feb-06	1.2	0.76	0.76	1
May-06	0.96	0.69	0.66	0.92
Aug-06	0.83	0.64	0.67	0.89
Nov-06	1.2	0.61	0.65	0.87
Feb-07	0.77	0.63	0.6	0.9
May-07	0.84	0.7	0.7	1
Aug-07	0.9	0.7	0.8	0.9
Nov-07	1.1	0.7	0.7	0.9
Feb-08	1.1	0.9	0.9	1.1
May-08	1.2	0.9	0.8	1.2
Aug-08	0.9	0.7	0.8	1
Nov-08	0.9	0.6	1	0.9
Feb-09	1	0.9	1	1.2
May-09	0.9	0.6	0.7	1
Aug-09	1.3	0.8	1	1.3
Nov-09	1.2	0.7	0.8	1
Feb-10	1.1	0.9	0.9	1.2
May-10	1	0.8	0.8	1.1
Aug-10	0.84	0.59	0.63	0.88
Nov-10	1.1	0.72	0.76	0.96
Feb-11	1.2	0.8	0.86	0.9
Apr-11	1.1	0.75	0.76	0.96
Jul-11	1.3	0.92	0.8	1.1
Nov-11	1.3	0.79	0.69	0.9
Feb-12	1.3	1.1	1.1	1.2
May-12	1.1	0.73	0.76	1.1
Aug-12	1	0.7	0.77	0.99
Oct-12	1	0.73	0.79	0.98
Feb-13	1	0.71	0.76	1
May-13	1	0.7	0.74	1
Jul-13	1.1	0.73	0.8	1
Nov-13	0.95	0.62	0.64	0.87
Feb-14	0.99	0.68	0.73	0.98
Apr-14	1.00	0.69	0.73	1.00
Jul-14	0.80	0.57	0.61	0.80
Nov-14	0.94	0.67	0.72	0.97
Feb-15	0.98	0.65	0.70	0.95
May-15	1.00	0.70	0.76	1.00
Jul-15	0.99	0.67	0.74	0.96
Nov-15	0.98	0.66	0.69	0.95

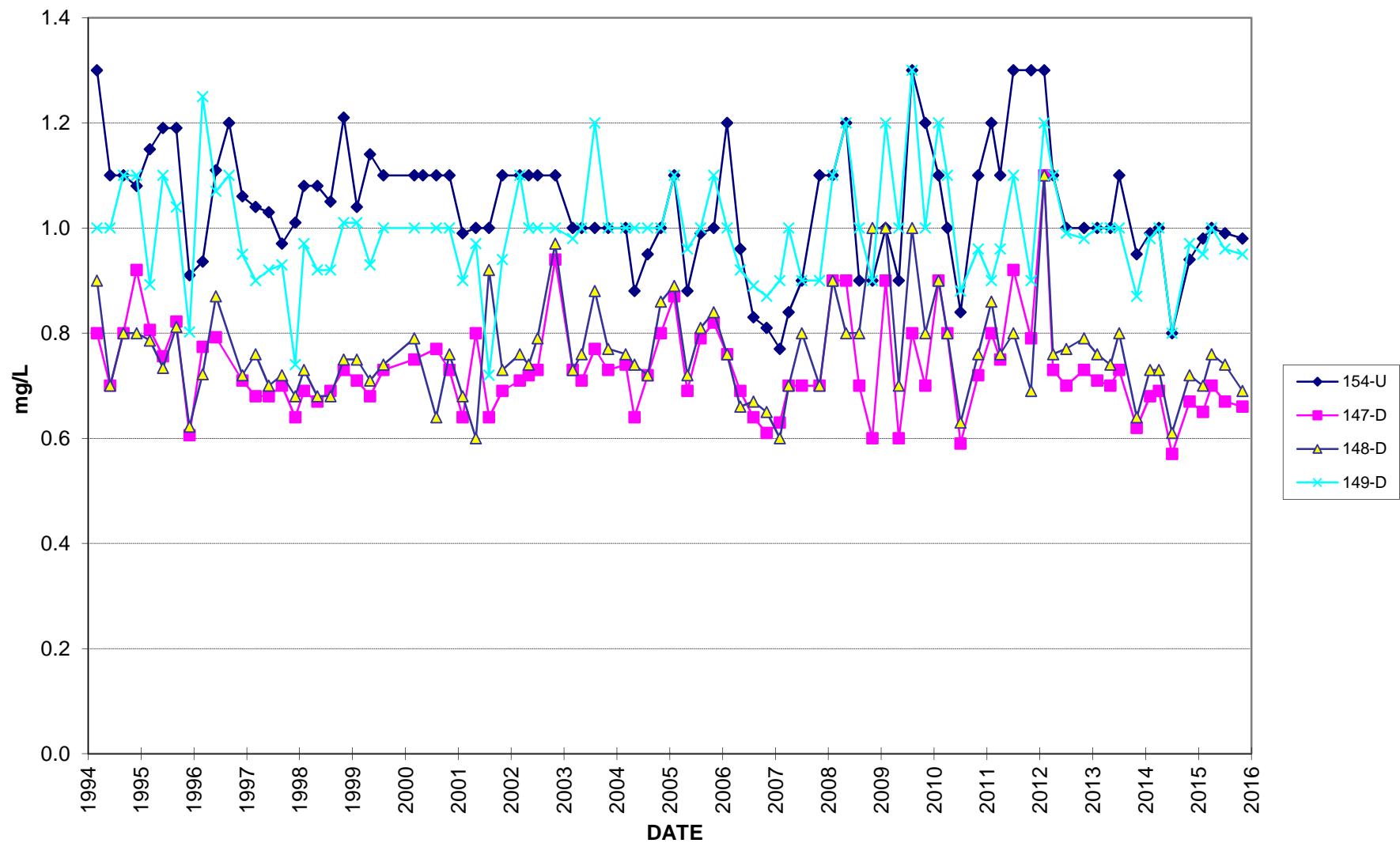
TEST 2
STATISTICS FOR POND 16S (WMU 10)

Fluoride				
Test 2 Results	Date	Upgradient Well	Downgradient Wells	
		Well 154	Well 147	Well 148
		Well 154	Well 147	Well 149
Pre-2015 Mean		1.0602	0.7422	0.7721
2015 Mean		0.9325	0.6525	0.6975
1991-2015 Statistical Summary				
Mean		1.054	0.738	0.769
Median		1.070	0.730	0.760
Standard Deviation		0.119	0.090	0.098
Kurtosis		-0.217	2.186	1.301
Skewness		0.010	0.982	0.912
Minimum		0.770	0.570	0.600
Maximum		1.300	1.100	1.100
Count		88	88	88
All concentrations in mg/l.				

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

Fluoride in Groundwater (WMU 10)

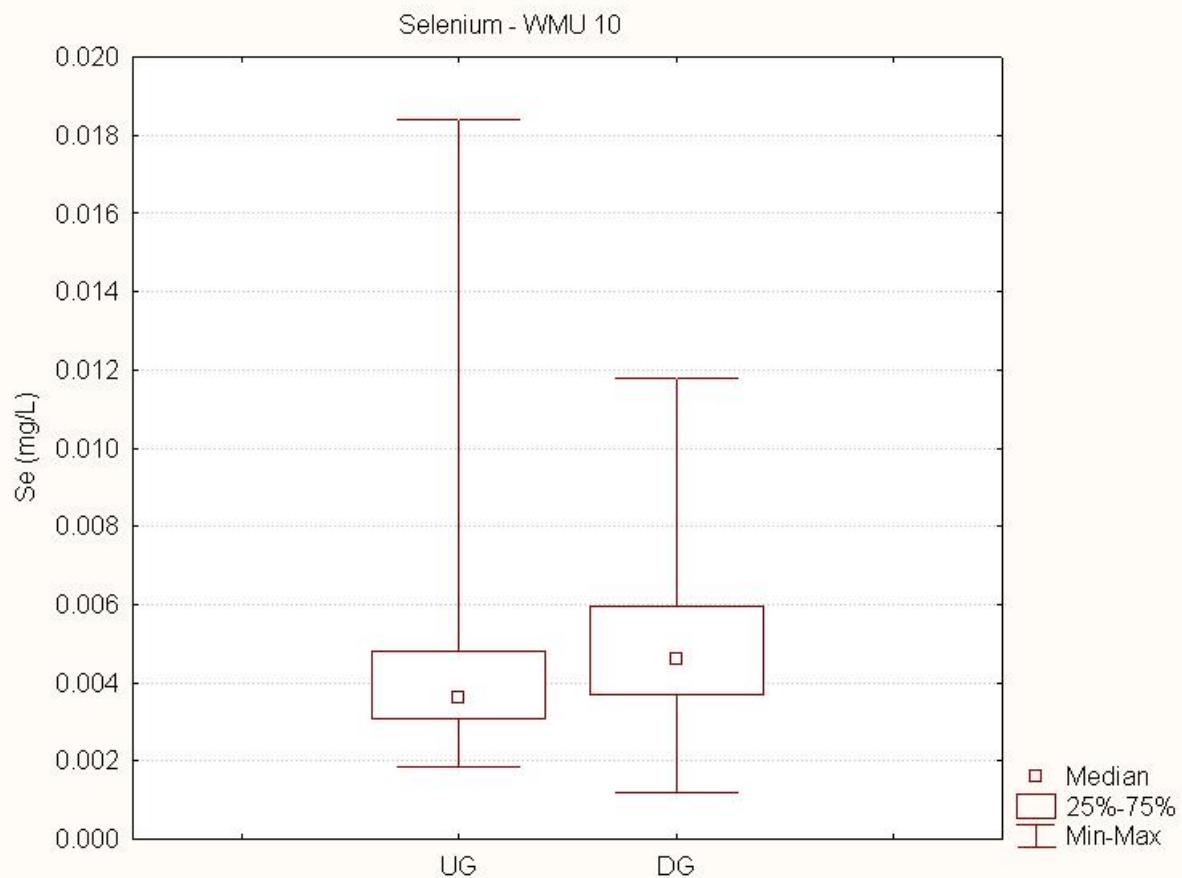


WMU 10 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	45	0.0036	4234.5	3199.5	-2.36	0.018
Downgradient	184	0.0046	22100.5			

Summary: The median selenium concentration of downgradient (DG) wells is significantly higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 16S (WMU 10)

Selenium

<u>Date</u>	<u>Upgradient Well</u>		<u>Downgradient Wells</u>	
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
Jun-92	N.S.	U	0.0083	U
Sep-92	N.S.	U	U	U
Dec-92	U	U	U	U
Mar-93	0.0023	0.0031	0.0050	U
Jun-93	U	0.0027	0.0015	U
Sep-93	U	0.0051	0.0039	U
Dec-93	U	U	U	U
Mar-94	U	U	U	U
Jun-94	U	0.0050	0.0056	U
Sep-94	U	U	U	U
Dec-94	U	0.0035	0.0029	U
Mar-95	U	0.0032	0.0024	U
Jun-95	U	U	U	U
Sep-95	0.0184	0.0068	0.0045	U
Dec-95	U	0.0027	U	U
Mar-96	U	U	U	U
Jun-96	U	U	U	U
Sep-96	U	0.0060	0.0040	0.0030
Dec-96	U	0.0063	0.0038	0.0035
Mar-97	0.0042	0.0047	0.0073	U
Jun-97	0.0046	0.0049	U	U
Sep-97	U	0.0073	0.0048	0.0059
Dec-97	0.0047	0.0072	0.0047	0.0037
Feb-98	0.0032	0.0044	0.0043	0.0030
May-98	U	U	U	U
Aug-98	0.0067	0.0060	0.0066	U
Nov-98	U	0.0058	U	0.0036
Feb-99	U	0.0051	0.0050	U
May-99	U	0.0048	0.0035	U
Aug-99	U	U	U	U
Nov-99	U	0.0057	U	U
Mar-00	U	0.0053	0.0061	0.0032
May-00	U	0.0038	0.0066	U
Aug-00	U	0.0060	0.0036	U
Nov-00	U	0.0057	0.0070	0.0045
Feb-01	U	0.0065	0.0049	U
May-01	U	0.0053	0.0065	U
Aug-01	U	U	U	U
Nov-01	U	0.0068	U	0.0045
Mar-02	U	0.0058	0.0046	U
May-02	U	0.0042	0.0038	0.0024
Jul-02	U	0.0060	0.0068	U
Nov-02	U	0.0039	0.0040	U
Mar-03	U	0.0050	0.0050	U
May-03	0.0036	U	U	0.0043
Aug-03	U	0.0066	0.0044	0.0049
Nov-03	U	0.0071	U	U
Mar-04	0.0034	0.0036	0.0034	0.0034

TEST 2
STATISTICS FOR POND 16S (WMU 10)

Selenium

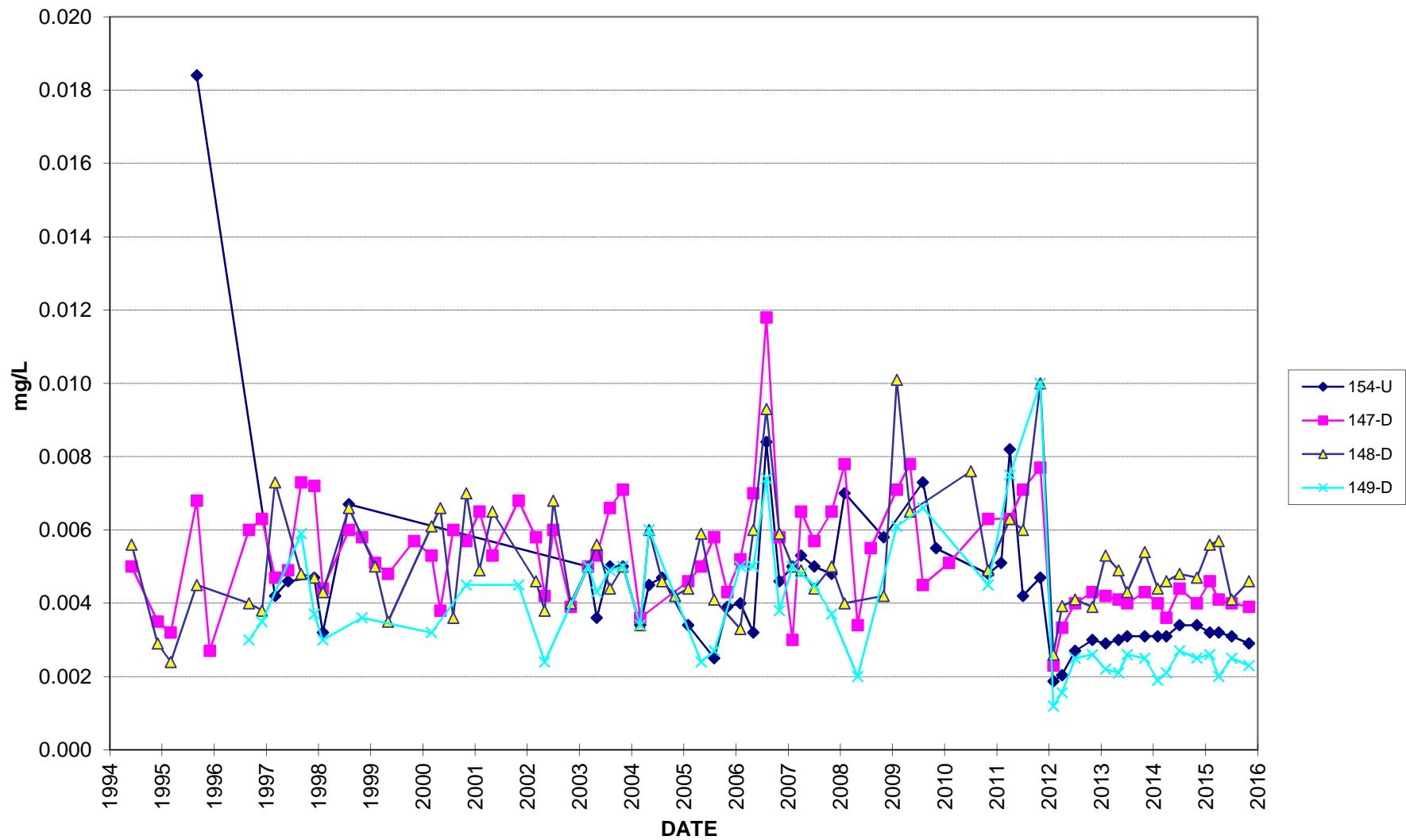
<u>Date</u>	Upgradient Well		Downgradient Wells	
	<u>Well 154</u>	<u>Well 147</u>	<u>Well 148</u>	<u>Well 149</u>
May-04	0.0045	U	0.0060	0.0060
Aug-04	0.0047	U	0.0046	U
Nov-04	U	U	0.0042	U
Feb-05	0.0034	0.0046	0.0044	U
May-05	U	0.0050	0.0059	0.0024
Aug-05	0.0025	0.0058	0.0041	0.0027
Nov-05	0.0039	0.0043	U	U
Feb-06	0.0040	0.0052	0.0033	U
May-06	0.0032	0.0070	0.0060	U
Aug-06	0.0084	0.0118	0.0093	0.0074
Nov-06	0.0046	0.0058	0.0059	0.0038
Feb-07	U	0.0030	U	U
May-07	0.0053	0.0065	0.0049	0.0048
Aug-07	U	0.0057	0.0044	0.0045
Nov-07	0.0048	0.0065	U	0.0037
Feb-08	0.0070	0.0078	0.0040	U
May-08	U	0.0034	U	0.0020
Aug-08	U	0.0055	U	U
Nov-08	0.0058	U	0.0042	U
Feb-09	U	0.0071	0.0101	0.0061
May-09	U	0.0078	0.0065	U
Aug-09	0.0073	0.0045	U	0.0066
Nov-09	0.0055	U	U	U
Feb-10	U	0.0051	U	U
May-10	U	U	U	U
Aug-10	U	U	0.0076	U
Nov-10	0.0048	0.0063	0.0049	0.0045
Feb-11	0.0051	U	U	U
Apr-11	0.0082	0.0063	0.0063	0.0075
Jul-11	0.0042	0.0071	0.0060	U
Nov-11	0.0047	0.0077	0.0100	0.0100
Feb-12	0.0019	0.0023	0.0026	0.0012
May-12	0.0020	0.0033	0.0039	0.0016
Aug-12	0.0027	0.0040	0.0041	0.0025
Oct-12	0.0030	0.0043	0.0039	0.0026
Feb-13	0.0029	0.0042	0.0053	0.0022
May-13	0.0030	0.0041	0.0049	0.0021
Jul-13	0.0031	0.0040	0.0043	0.0026
Nov-13	0.0031	0.0043	0.0054	0.0025
Feb-14	0.0031	0.0040	0.0044	0.0019
Apr-14	0.0031	0.0036	0.0046	0.0021
Jul-14	0.0034	0.0044	0.0048	0.0027
Nov-14	0.0034	0.0040	0.0047	0.0025
Feb-15	0.0032	0.0046	0.0056	0.0026
May-15	0.0032	0.0041	0.0057	0.0020
Jul-15	0.0031	0.0040	0.0041	0.0025
Nov-15	0.0029	0.0039	0.0046	0.0023

TEST 2
STATISTICS FOR POND 16S (WMU 10)

Selenium				
Test 2 Results	Date	Upgradient Well	Downgradient Wells	
		Well 154	Well 147	Well 148
		Well 154	Well 147	Well 149
Pre-2015 Mean		0.0047	0.0053	0.0051
2015 Mean		0.0033	0.0040	0.0046
1991-2015 Statistical Summary				
Mean		0.005	0.005	0.005
Median		0.004	0.005	0.005
Standard Deviation		0.003	0.002	0.002
Kurtosis		16.689	2.793	1.668
Skewness		3.536	0.929	1.023
Minimum		0.002	0.002	0.002
Maximum		0.018	0.012	0.010
Count		41	70	63
				39

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Selenium in Groundwater (WMU 10)



POND 17

Waste Management Unit 14

Note:

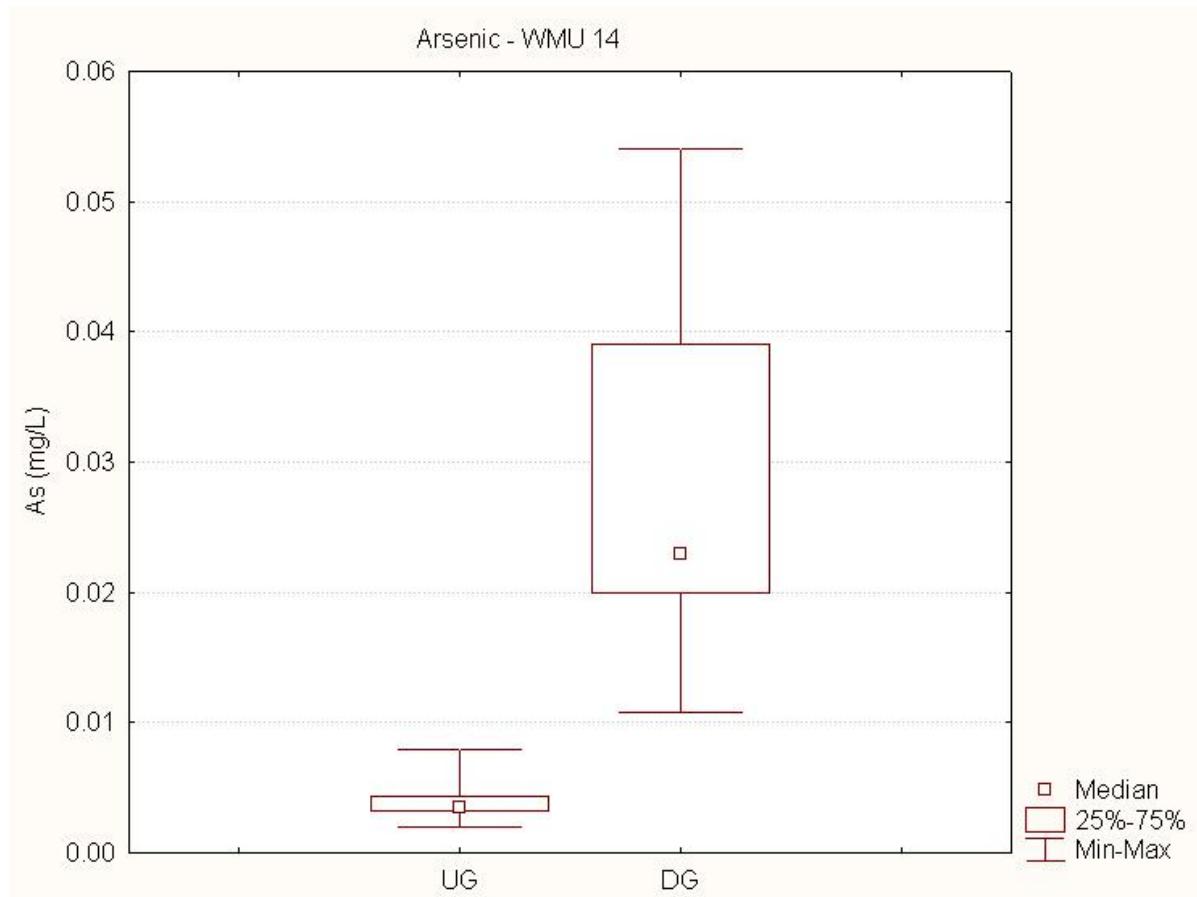
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 14 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	59	0.0039	1770.0	0.00	11.80	<0.0001
Downgradient	222	0.023	37851.0			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 17 (WMU 14)

Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 173</u>	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Mar-97	N.S.	0.017	N.S.	N.S.
Jun-97	N.S.	0.025	N.S.	N.S.
Sep-97	N.S.	0.017	0.019	0.035
Dec-97	N.S.	U	0.022	0.035
Feb-98	N.S.	0.021	0.024	0.041
May-98	N.S.	0.021	0.023	0.043
Aug-98	N.S.	0.021	0.026	0.054
Nov-98	0.003	0.020	0.026	0.052
Feb-99	0.0049	0.018	0.026	0.050
May-99	U	0.020	0.024	0.052
Aug-99	0.005	0.019	0.024	0.0486
Nov-99	0.0064	0.0198	0.0247	0.0426
Mar-00	U	0.0189	0.0236	0.0462
May-00	0.0028	0.0181	0.0236	0.0497
Aug-00	0.004	0.0185	0.0229	0.0491
Nov-00	0.006	0.0234	0.0291	0.0477
Feb-01	0.0066	0.0202	0.0247	0.0523
May-01	U	0.0215	0.0241	0.0436
Aug-01	0.0034	0.0182	0.0217	0.042
Nov-01	0.0038	0.02	0.0228	0.0449
Mar-02	0.0042	0.0191	0.0219	0.0452
May-02	0.0033	0.0179	0.0205	0.0426
Jul-02	0.002	0.0188	0.0238	0.0434
Nov-02	0.0035	0.0174	0.0222	0.0421
Mar-03	U	U	0.0247	0.0462
May-03	0.0034	0.0206	0.0232	0.0433
Aug-03	0.0044	0.021	0.0249	0.0452
Nov-03	0.0025	0.0175	0.0205	0.0407
Mar-04	0.0039	0.0209	0.0268	0.0465
May-04	0.0044	0.0211	0.0261	0.0457
Aug-04	U	0.0202	0.0233	0.0417
Nov-04	0.0029	0.019	0.0229	0.0426
Mar-05	0.005	0.021	0.025	0.0455
May-05	0.0033	0.0205	0.0242	0.0461
Aug-05	0.004	0.0222	0.0261	0.0447
Nov-05	0.0044	0.0185	0.0206	0.0436
Feb-06	0.0026	0.0178	0.0229	0.0412
May-06	0.004	0.0186	0.0228	0.0484
Aug-06	0.008	0.0221	0.0269	0.0469
Nov-06	0.0047	0.019	0.0226	0.0434
Feb-07	0.0036	0.0183	0.0206	0.0434
May-07	0.0039	0.0193	0.0224	0.0433
Aug-07	U	0.0186	0.0213	0.0418
Nov-07	U	0.0108	0.0185	0.0391
Feb-08	U	0.0174	0.0232	0.0363
May-08	0.0028	0.0267	0.0323	0.0453

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Arsenic

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 173</u>	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Aug-08	0.0032	0.0181	0.0222	0.0396
Nov-08	0.0044	0.0177	0.0222	0.0403
Feb-09	U	0.0177	0.0227	0.0398
May-09	0.0054	0.0173	0.0223	0.0364
Aug-09	0.0034	0.0168	0.0201	0.0387
Nov-09	0.0037	0.0188	0.0211	0.0411
Feb-10	0.0037	0.02	0.0232	0.0434
Apr-10	0.0033	0.0223	0.0246	0.0399
Jul-10	U	0.0192	0.0221	0.039
Nov-10	0.0049	0.0195	0.0223	0.0425
Feb-11	0.004	0.019	0.0219	0.0426
Apr-11	0.004	0.0201	0.0231	0.0433
Jul-11	0.0053	0.019	0.023	0.042
Nov-11	0.0049	0.018	0.022	0.043
Feb-12	0.003	0.0155	0.0185	0.0323
May-12	0.00313	0.0164	0.0202	0.0334
Aug-12	0.003	0.018	0.021	0.036
Oct-12	0.0033	0.017	0.022	0.039
Feb-13	0.0032	0.019	0.023	0.037
May-13	0.0033	0.018	0.022	0.037
Jul-13	0.0032	0.018	0.021	0.035
Nov-13	0.0036	0.020	0.023	0.041
Feb-14	0.0033	0.018	0.021	0.037
Apr-14	0.0032	0.018	0.021	0.036
Jul-14	0.0032	0.019	0.022	0.036
Nov-14	0.0033	0.017	0.020	0.038
Feb-15	0.0033	0.018	0.022	0.041
May-15	0.0032	0.018	0.021	0.044
Jul-15	0.0033	0.019	0.022	0.039
Nov-15	0.0032	0.017	0.021	0.040

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Arsenic

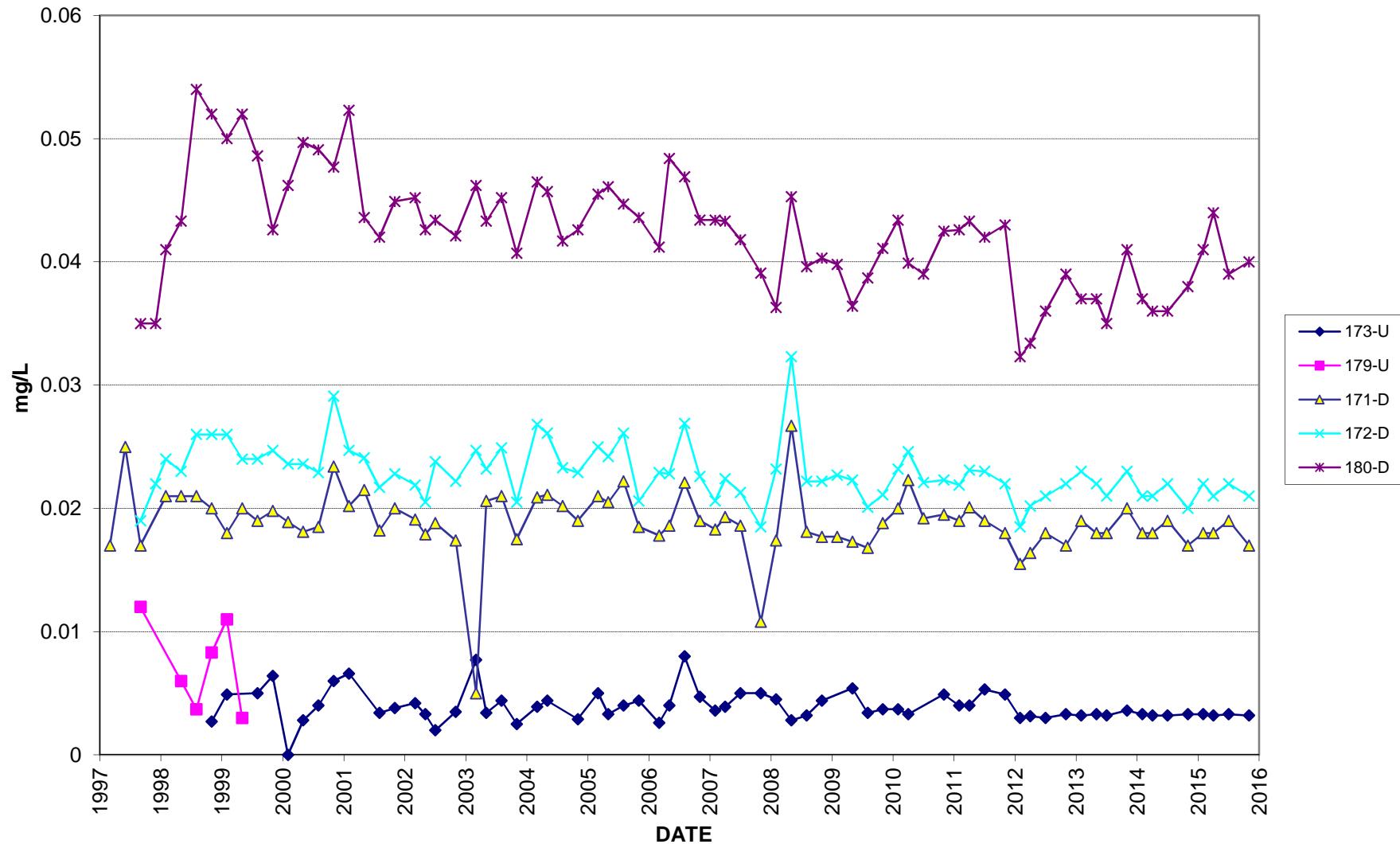
<u>Date</u> Test 2 Results	Upgradient Well	Downgradient Wells		
	Well 173	Well 171	Well 172	Well 180
Pre-2015 Mean	0.0039	0.0191	0.0230	0.0425
2015 Mean	0.0033	0.0180	0.0215	0.0410
1991-2015 Statistical Summary				
Mean	0.004	0.019	0.023	0.042
Median	0.004	0.019	0.023	0.043
Standard Deviation	0.001	0.002	0.002	0.005
Kurtosis	3.083	4.309	3.418	-0.076
Skewness	1.515	0.253	1.179	0.215
Minimum	0.002	0.011	0.019	0.032
Maximum	0.008	0.027	0.032	0.054
Count	59	74	74	74

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Arsenic in Groundwater (WMU 14)

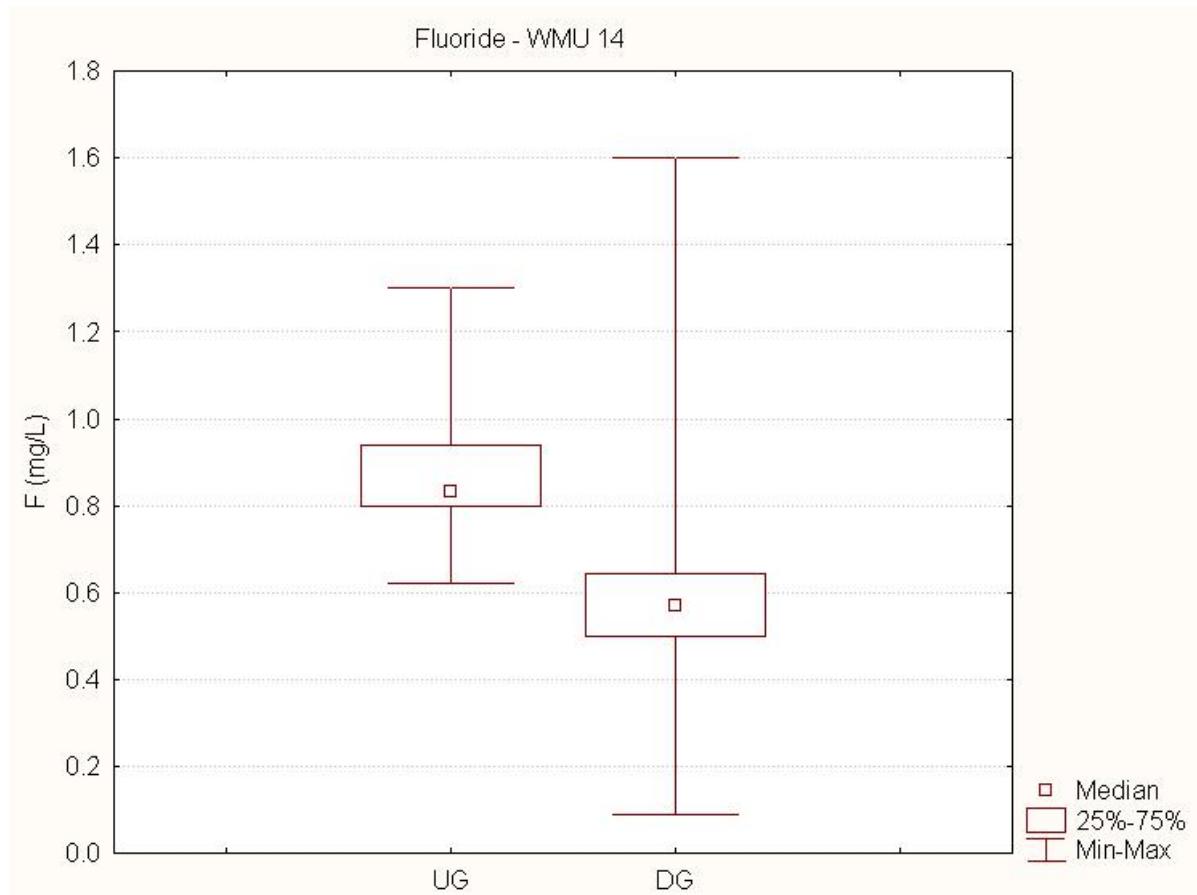


WMU 14 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	68	0.835	16241.0	1065.0	10.69	<0.0001
Downgradient	220	0.570	25375.0			

Summary: The median fluoride concentration of downgradient (DG) wells is statistically lower than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 17 (WMU 14)

Fluoride

<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 173	Well 171	Well 172	Well 180
Mar-97	N.S.	0.66	N.S.	N.S.
Jun-97	N.S.	0.59	N.S.	N.S.
Sep-97	N.S.	0.58	0.33	0.76
Dec-97	N.S.	0.55	0.32	0.71
Feb-98	N.S.	0.61	0.37	0.68
May-98	N.S.	0.56	0.37	0.57
Aug-98	N.S.	0.59	0.39	0.37
Nov-98	0.95	0.62	0.40	0.70
Feb-99	1.04	0.63	0.40	0.43
May-99	1.03	0.61	0.40	0.47
Aug-99	0.83	0.65	0.46	0.44
Nov-99	U	U	U	U
Mar-00	0.89	0.67	0.42	0.55
May-00	0.96	0.69	0.3	0.09
Aug-00	0.85	0.71	0.5	0.58
Nov-00	0.86	0.65	0.46	0.71
Feb-01	0.76	0.61	0.38	0.53
May-01	0.8	0.76	0.38	0.48
Aug-01	0.7	0.63	0.4	0.47
Nov-01	0.75	0.6	0.42	0.51
Mar-02	0.79	0.64	0.41	0.56
May-02	0.81	0.64	0.42	0.53
Jul-02	0.8	0.66	0.48	0.51
Nov-02	1.1	0.68	0.52	0.83
Mar-03	0.83	0.62	0.45	0.67
May-03	0.83	0.63	0.42	0.55
Aug-03	0.96	0.76	0.48	0.51
Nov-03	0.81	0.67	0.5	0.56
Mar-04	0.83	0.64	0.52	0.55
May-04	0.62	0.57	0.4	0.51
Aug-04	0.86	0.55	0.44	0.49
Nov-04	0.98	0.73	0.52	0.77
Mar-05	1.1	0.77	0.58	0.64
May-05	0.88	0.62	0.52	0.58
Aug-05	0.75	0.78	0.69	0.56
Nov-05	0.77	0.67	0.5	0.94
Feb-06	1.1	0.65	0.47	0.71
May-06	0.81	0.71	0.76	0.98
Aug-06	0.69	0.62	0.49	0.54
Nov-06	0.66	0.56	0.45	0.97
Feb-07	0.7	0.5	0.4	0.5
May-07	0.81	0.6	0.6	0.6
Aug-07	0.8	0.5	0.5	0.4
Nov-07	1	0.6	0.5	0.9
Feb-08	1	0.6	0.6	0.7
May-08	1	0.8	0.5	0.6

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Fluoride

<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 173	Well 171	Well 172	Well 180
Aug-08	0.8	0.6	0.6	0.5
Nov-08	0.7	0.5	0.5	0.9
Feb-09	1.1	0.8	0.7	U
May-09	0.8	0.5	0.4	0.5
Aug-09	1.1	0.8	0.7	0.6
Nov-09	0.9	0.6	0.6	0.9
Feb-10	0.9	0.6	0.6	0.6
Apr-10	1.1	0.7	0.6	0.7
Jul-10	0.77	0.6	1.1	0.22
Nov-10	0.93	0.59	0.55	0.82
Feb-11	0.9	0.7	0.35	0.63
Apr-11	1.1	0.63	0.52	0.73
Jul-11	0.88	0.8	0.73	0.61
Nov-11	0.72	0.52	0.49	0.82
Feb-12	1.3	1	1.6	0.85
May-12	0.86	0.58	0.6	0.48
Aug-12	0.82	0.54	0.57	0.48
Oct-12	0.86	0.57	0.58	0.85
Feb-13	0.87	0.56	0.57	0.6
May-13	0.83	0.54	0.55	0.51
Jul-13	0.87	0.57	0.6	0.51
Nov-13	0.74	0.48	0.57	0.45
Feb-14	0.82	0.53	0.56	0.54
Apr-14	0.84	0.53	0.56	0.53
Jul-14	0.62	0.41	0.44	0.27
Nov-14	0.83	0.53	0.56	0.90
Feb-15	0.81	0.50	0.54	0.59
May-15	0.84	0.54	0.59	0.48
Jul-15	0.8	0.51	0.56	0.53
Nov-15	0.82	0.52	0.54	0.92

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Fluoride

<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 173	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Test 2 Results	Well 173	Well 171	Well 172	Well 180
Pre-2015 Mean	0.8698	0.6270	0.5220	0.6060
2015 Mean	0.8175	0.5175	0.5575	0.6300

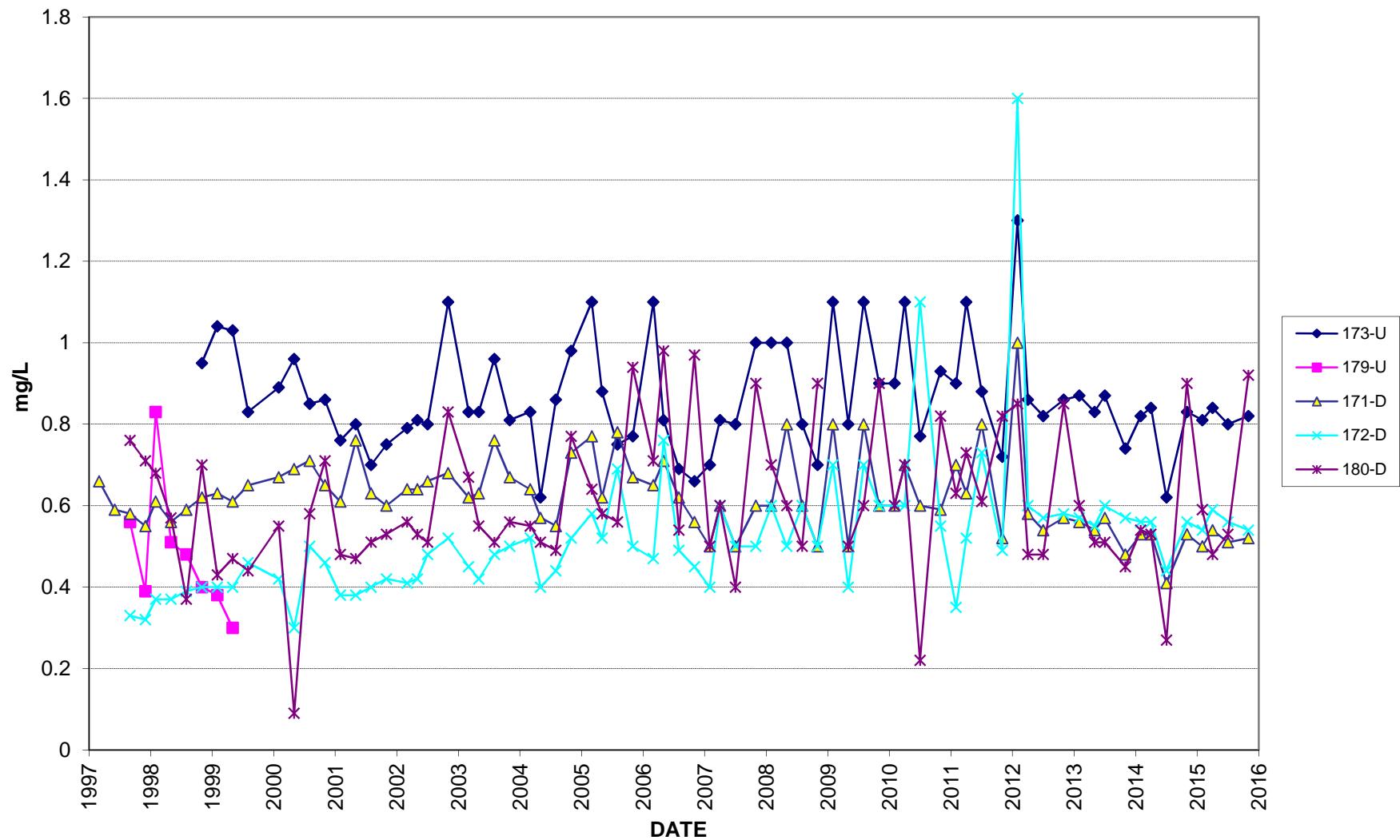
1991-2015 Statistical Summary				
Mean	0.867	0.621	0.524	0.607
Median	0.830	0.610	0.500	0.565
Standard Deviation	0.132	0.095	0.176	0.176
Kurtosis	0.817	2.383	20.122	0.434
Skewness	0.788	1.021	3.705	0.114
Minimum	0.620	0.410	0.300	0.090
Maximum	1.300	1.000	1.600	0.980
Count	68	75	73	72

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Fluoride in Groundwater (WMU 14)

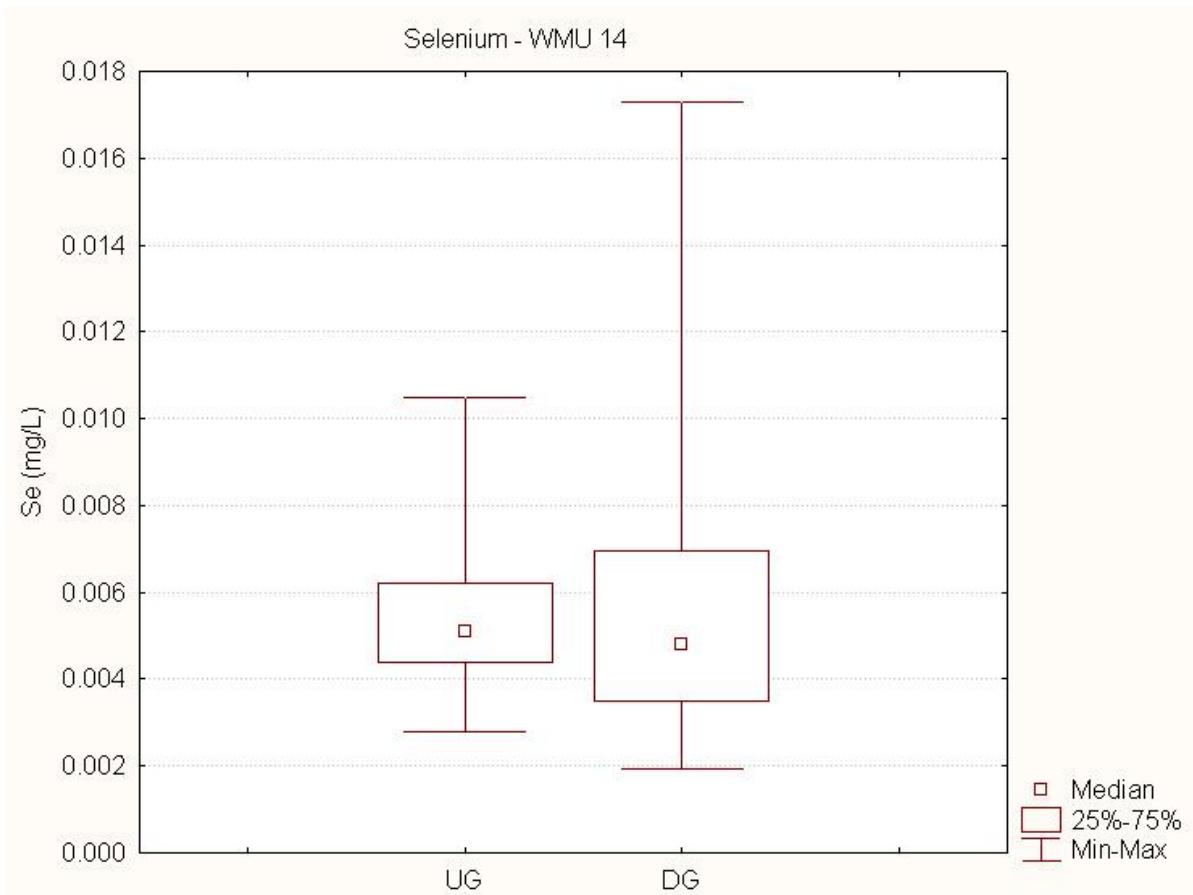


WMU 14 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	59	0.0051	6994.5	3979.5	1.53	0.126
Downgradient	156	0.0048	16225.5			

Summary: The median selenium concentration of downgradient (DG) wells is not significantly different from the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 17 (WMU 14)

Selenium

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 173</u>	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Mar-97	N.S.	0.006	N.S.	N.S.
Jun-97	N.S.	U	N.S.	N.S.
Sep-97	N.S.	U	0.005	U
Dec-97	N.S.	U	U	0.004
Feb-98	N.S.	U	0.003	0.007
May-98	N.S.	0.004	0.004	0.008
Aug-98	N.S.	U	0.005	0.016
Nov-98	0.004	0.004	0.004	0.007
Feb-99	U	U	0.0049	0.014
May-99	0.0028	U	U	0.011
Aug-99	0.0055	0.0053	U	0.0138
Nov-99	0.0053	U	U	0.0069
Mar-00	0.0046	0.0032	U	0.0124
May-00	0.0028	U	U	0.0132
Aug-00	U	0.0027	U	0.0114
Nov-00	0.0062	0.0061	0.0064	0.0078
Feb-01	U	U	U	0.0148
May-01	0.0052	U	0.0049	0.0151
Aug-01	U	U	U	0.013
Nov-01	0.0063	0.0035	0.0053	0.015
Mar-02	0.0051	U	U	0.0116
May-02	0.0044	U	U	0.0136
Jul-02	0.0074	0.0044	U	0.0158
Nov-02	U	0.0036	U	0.0048
Mar-03	U	U	U	U
May-03	U	0.0048	0.0037	U
Aug-03	0.0046	0.0039	0.0033	0.0124
Nov-03	0.0054	0.0041	U	0.0106
Mar-04	0.006	0.0057	0.0034	0.014
May-04	0.0089	0.0037	0.0053	0.0133
Aug-04	0.0084	U	0.0026	0.0173
Nov-04	0.0049	U	U	U
Mar-05	0.0069	U	0.0037	0.0123
May-05	0.0096	0.0055	0.0061	0.014
Aug-05	0.0069	0.0026	U	0.0123
Nov-05	0.0074	0.0052	0.004	0.0058
Feb-06	0.0045	U	0.0043	0.0062
May-06	0.0091	0.0038	0.0043	0.0052
Aug-06	0.0105	0.0071	0.0079	0.015
Nov-06	0.0057	0.003	0.0058	0.0065
Feb-07	0.0047	U	U	0.0055
May-07	0.0062	0.0049	0.0038	0.0121
Aug-07	0.0054	U	0.0028	0.0096
Nov-07	0.0076	U	U	0.0055
Feb-08	0.0066	U	0.0029	0.0075
May-08	0.0052	U	U	0.0121

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Selenium

<u>Date</u>	<u>Upgradient Well</u>	<u>Downgradient Wells</u>		
	<u>Well 173</u>	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Aug-08	0.0059	U	U	0.0088
Nov-08	0.0044	U	0.0055	0.0059
Feb-09	0.0051	U	0.0046	U
May-09	U	U	0.0066	0.0071
Aug-09	0.0085	U	0.0059	0.0069
Nov-09	0.0055	U	U	0.0066
Feb-10	0.0058	U	0.0054	0.0059
Apr-10	U	U	U	U
Jul-10	U	U	0.005	0.0107
Nov-10	0.0063	U	0.0053	U
Feb-11	0.0048	U	U	U
Apr-11	0.0043	0.0042	U	0.0075
Jul-11	0.0061	0.0049	0.0053	0.0074
Nov-11	0.0061	0.0070	0.008	0.0059
Feb-12	0.00293	0.0020	0.00227	0.00269
May-12	0.00355	0.0021	0.00248	0.00361
Aug-12	0.0045	0.0026	0.0032	0.0054
Oct-12	0.0045	0.0026	0.0035	0.0037
Feb-13	0.0043	0.0030	0.0035	0.0033
May-13	0.0043	0.0028	0.0033	0.0038
Jul-13	0.0049	0.0027	0.0033	0.0055
Nov-13	0.0045	0.0030	0.0037	0.0036
Feb-14	0.0042	0.0028	0.0033	0.0032
Apr-14	0.0045	0.0029	0.0032	0.0037
Jul-14	0.0051	0.0030	0.0038	0.0051
Nov-14	0.0043	0.0028	0.0037	0.0031
Feb-15	0.0042	0.0029	0.0040	0.0036
May-15	0.0046	0.0027	0.0037	0.0044
Jul-15	0.0044	0.0030	0.0042	0.0038
Nov-15	0.0042	0.0027	0.0035	0.0031

TEST 2
STATISTICS FOR POND 17 (WMU 14)

Selenium

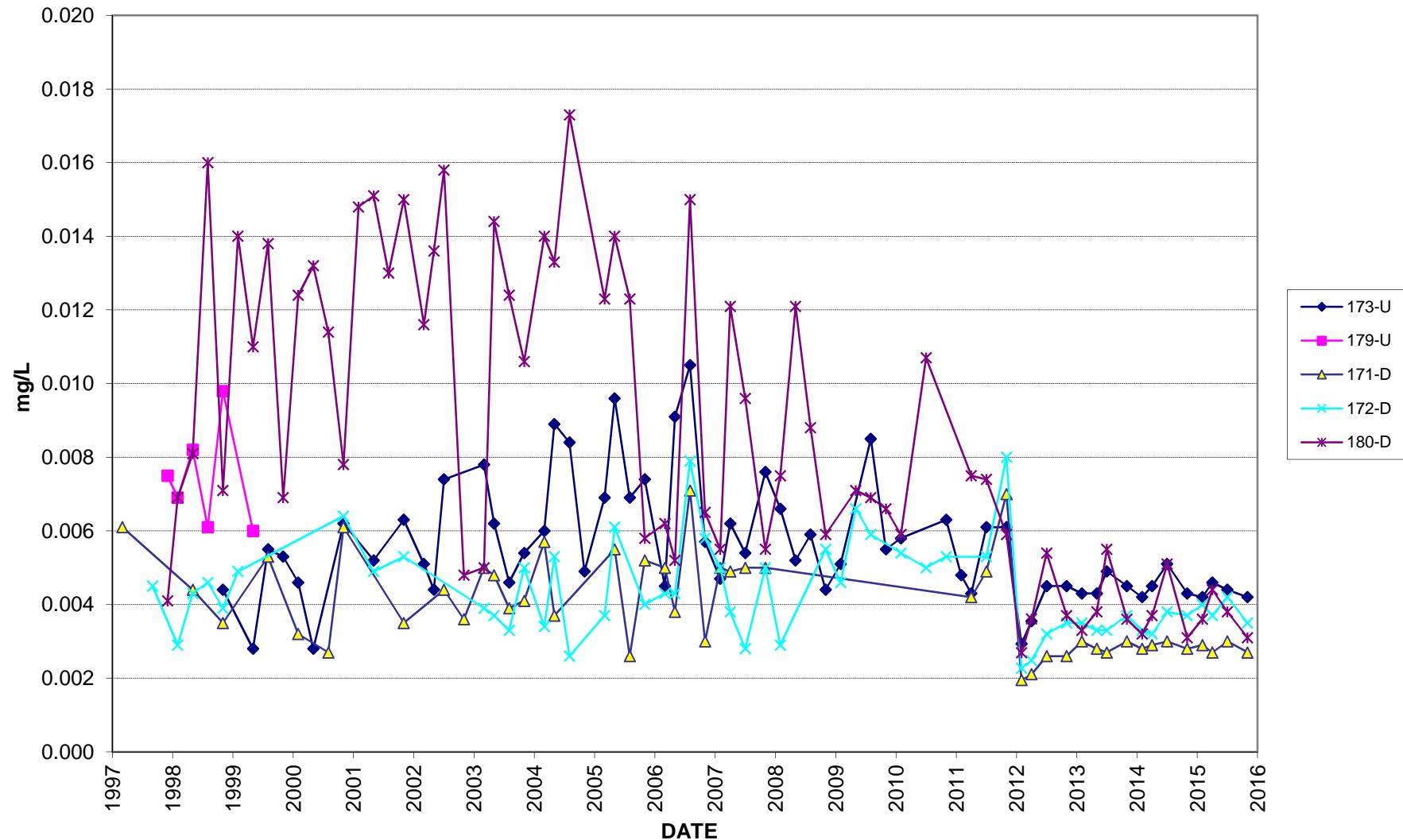
<u>Date</u>	Upgradient Well	Downgradient Wells		
	Well 173	<u>Well 171</u>	<u>Well 172</u>	<u>Well 180</u>
Test 2 Results				
	Well 173	Well 171	Well 172	Well 180
Pre-2015 Mean	0.0056	0.0039	0.0044	0.0089
2015 Mean	0.0044	0.0028	0.0039	0.0037
1991-2015 Statistical Summary				
Mean	0.006	0.004	0.004	0.009
Median	0.005	0.004	0.004	0.007
Standard Deviation	0.002	0.001	0.001	0.004
Kurtosis	1.090	-0.030	0.828	-1.273
Skewness	1.058	0.909	0.953	0.342
Minimum	0.003	0.002	0.002	0.003
Maximum	0.011	0.007	0.008	0.017
Count	59	41	49	66

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

All concentrations in mg/l.

Selenium in Groundwater (WMU 14)



POND 18 CELL A

Waste Management Unit 15

Note:

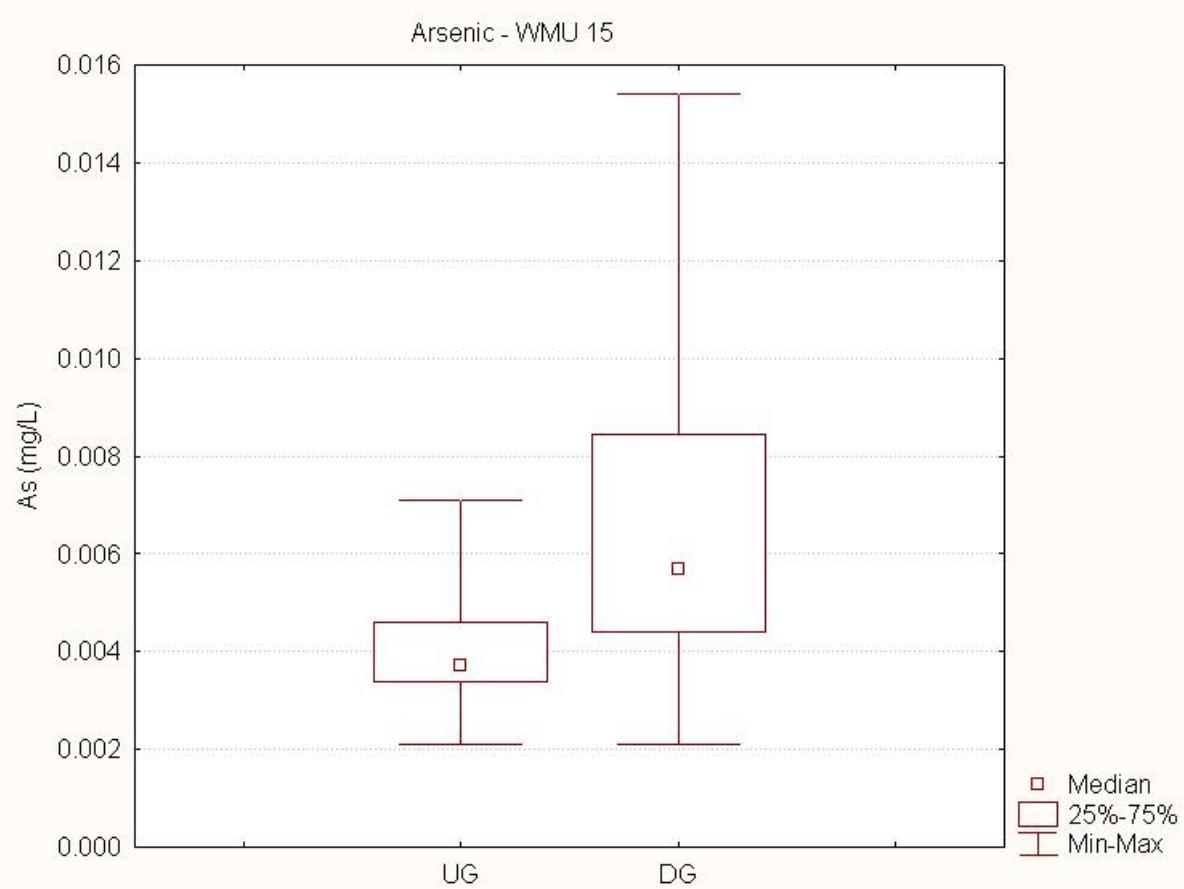
- 1. Time series plot scales are variable depending on the concentrations.**
- 2. Undetected values are not plotted on time series plots**

WMU 15 TEST 1 ARSENIC

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	60	0.0037	4056.0	2226.0	-7.39	<0.0001
Downgradient	200	0.0057	29874.0			

Summary: The median arsenic concentration of downgradient (DG) wells is statistically higher than the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Arsenic

<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
Dec-92	N.S.	U	N.S.	N.S.
Mar-93	N.S.	0.0058	N.S.	N.S.
Jun-93	N.S.	0.0081	N.S.	N.S.
Sep-93	N.S.	U	N.S.	N.S.
Dec-93	N.S.	0.0033	N.S.	N.S.
Mar-94	N.S.	0.0070	N.S.	N.S.
Jun-94	N.S.	0.0068	N.S.	N.S.
Sep-94	N.S.	0.0061	N.S.	N.S.
Dec-94	N.S.	U	N.S.	N.S.
Mar-95	N.S.	0.0031	N.S.	N.S.
Jun-95	N.S.	0.0064	N.S.	N.S.
Sep-95	N.S.	U	N.S.	N.S.
Dec-95	N.S.	0.0029	N.S.	N.S.
Mar-96	N.S.	U	N.S.	N.S.
Jun-96	N.S.	0.0088	N.S.	N.S.
Sep-96	N.S.	U	N.S.	N.S.
Dec-96	N.S.	U	N.S.	N.S.
Mar-97	N.S.	0.0050	N.S.	N.S.
Jun-97	N.S.	U	N.S.	N.S.
Sep-97	N.S.	0.0058	N.S.	N.S.
Dec-97	N.S.	U	N.S.	N.S.
Feb-98	N.S.	U	N.S.	N.S.
May-98	N.S.	0.0078	N.S.	N.S.
Aug-98	N.S.	0.0086	N.S.	N.S.
Nov-98	U	0.0065	U	0.0064
Feb-99	0.0032	0.0048	U	0.0084
May-99	0.0047	0.0068	0.0045	0.0099
Aug-99	0.0033	0.0062	0.0044	0.0066
Nov-99	0.0054	0.0068	0.0058	0.0093
Mar-00	U	U	U	U
May-00	0.0028	0.0073	0.0032	0.0080
Aug-00	U	0.0070	0.0047	0.0091
Nov-00	0.0054	0.0087	0.0069	0.0125
Feb-01	0.0034	0.0064	0.0047	0.0069
May-01	0.0041	0.0045	0.0037	0.0087
Aug-01	0.0042	0.0055	0.0036	0.0072
Nov-01	0.0031	0.0062	N.S.	0.0079
Mar-02	0.0042	0.0052	0.0039	0.0082
May-02	0.0035	0.0049	0.0036	0.0078
Jul-02	0.0049	0.0051	0.0047	0.0079
Nov-02	0.0036	0.0045	0.0046	0.0064
Mar-03	U	U	U	U
May-03	0.0043	0.0045	0.0048	0.0090
Aug-03	0.0040	0.0064	0.0057	0.0102
Nov-03	0.0045	0.0030	0.0030	0.0076
Mar-04	0.0059	0.0063	0.0047	0.0110

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Arsenic

<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
May-04	0.0057	0.0055	0.0050	0.0111
Aug-04	U	0.0058	0.0026	0.0081
Nov-04	0.0026	0.0048	0.0033	0.0086
Feb-05	0.0059	0.0070	0.0054	0.0109
May-05	0.0037	0.0040	0.0042	0.0099
Aug-05	0.0056	0.0060	0.0066	0.0127
Nov-05	0.0034	0.0049	0.0033	0.0089
Feb-06	0.0032	0.0044	0.0040	0.0084
May-06	0.0033	0.0038	0.0044	0.0090
Aug-06	0.0071	0.0071	0.0074	0.0154
Nov-06	0.0051	0.0054	0.0043	0.0110
Feb-07	0.0039	0.0059	0.0045	0.0088
May-07	0.0043	0.0043	0.0046	0.0096
Aug-07	0.0021	0.0032	0.0021	0.0063
Nov-07	0.0031	U	U	0.0085
Feb-08	U	U	U	U
May-08	U	U	U	U
Aug-08	0.0038	0.0057	0.0038	0.0097
Nov-08	0.0041	0.0065	0.0056	0.0105
Feb-09	U	U	0.0033	0.0096
May-09	0.0037	0.0048	0.0042	0.0093
Aug-09	U	U	0.0032	0.0098
Nov-09	0.0055	0.0050	0.0060	0.0126
Feb-10	0.0041	0.0054	0.0043	0.0093
Apr-10	0.0053	0.0056	0.0059	0.0067
Jul-10	0.0035	0.0041	0.0046	0.0096
Nov-10	0.0047	0.0072	0.0054	0.0123
Feb-11	0.0050	U	U	0.0081
Apr-11	0.0041	0.0055	0.0043	0.0113
Jul-11	0.0060	0.0052	0.0057	0.0120
Nov-11	0.0045	0.0047	0.0035	0.0110
Feb-12	0.0029	0.0039	0.0037	0.0077
May-12	0.0029	0.0041	0.0038	0.0086
Aug-12	0.0034	0.0043	0.0041	0.0093
Oct-12	0.0036	0.0045	0.0041	0.0099
Feb-13	0.0034	0.0044	0.0041	0.0090
May-13	0.0036	0.0046	0.0042	0.0092
Jul-13	0.0035	0.0044	0.0043	0.0094
Nov-13	0.0032	0.0045	0.0041	0.0110
Feb-14	0.0035	0.0046	0.0043	0.0094
Apr-14	0.0035	0.0043	0.0039	0.0088
Jul-14	0.0037	0.0046	0.0045	0.0096
Nov-14	0.0035	0.0046	0.0046	0.0120
Feb-15	0.0037	0.0046	0.0042	0.0092
May-15	0.0035	0.0043	0.0042	0.0088

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Arsenic				
Date	Upgradient Wells		Downgradient Wells	
	Well 174	Well 154	Well 177	Well 178
	0.0035	0.0045	0.0044	0.0090
Test 2 Results				
	Well 174	Well 154	Well 177	Well 178
Pre-2015 Mean	0.0061	0.0051	0.0070	0.0094
2015 Mean	0.0035	0.0044	0.0042	0.0093
1991-2015 Statistical Summary				
Mean	0.006	0.005	0.007	0.009
Median	0.004	0.005	0.004	0.009
Standard Deviation	0.008	0.001	0.003	0.002
Kurtosis	0.508	-0.042	1.288	1.337
Skewness	0.877	0.547	0.718	0.744
Minimum	0.002	0.003	0.002	0.006
Maximum	0.078	0.009	0.015	0.015
Count	60	75	60	65

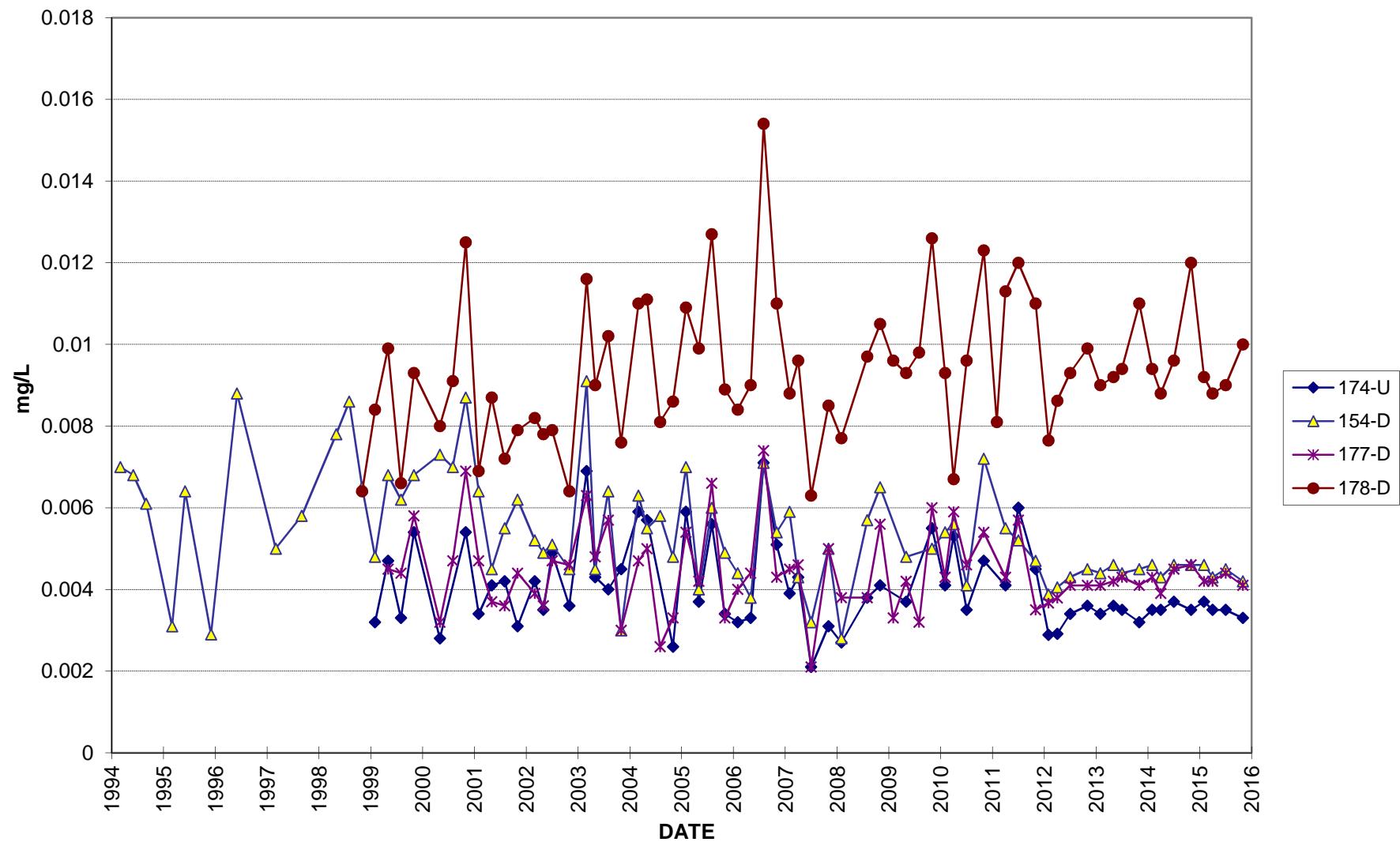
U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.

N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.

N.S = Not Sampled, Upgradient well(s) in bold; 2014 data in italics.

All concentrations in mg/l.

Arsenic in Groundwater (WMU 15)

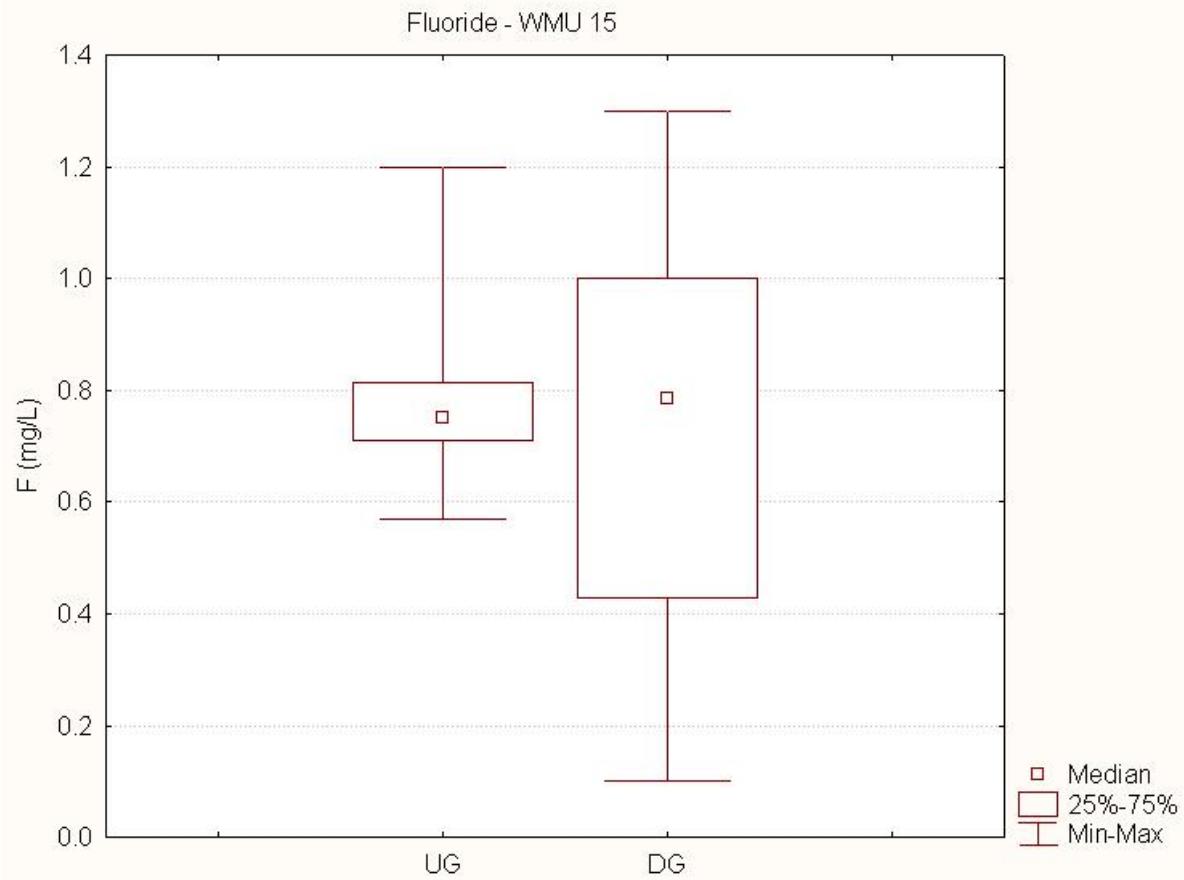


WMU 15 TEST 1 FLUORIDE

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	68	0.75	9550.5	7204.5	-0.68	0.50
Downgradient	224	0.79				

Summary: The median fluoride concentration of downgradient (DG) wells is not significantly different from the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Fluoride

<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
Dec-92	N.S.	1.200	N.S.	N.S.
Mar-93	N.S.	1.200	N.S.	N.S.
Jun-93	N.S.	1.100	N.S.	N.S.
Sep-93	N.S.	0.900	N.S.	N.S.
Dec-93	N.S.	1.200	N.S.	N.S.
Mar-94	N.S.	1.300	N.S.	N.S.
Jun-94	N.S.	1.100	N.S.	N.S.
Sep-94	N.S.	1.100	N.S.	N.S.
Dec-94	N.S.	1.080	N.S.	N.S.
Mar-95	N.S.	1.150	N.S.	N.S.
Jun-95	N.S.	1.190	N.S.	N.S.
Sep-95	N.S.	1.190	N.S.	N.S.
Dec-95	N.S.	0.910	N.S.	N.S.
Mar-96	N.S.	0.936	N.S.	N.S.
Jun-96	N.S.	1.110	N.S.	N.S.
Sep-96	N.S.	1.200	N.S.	N.S.
Dec-96	N.S.	1.060	N.S.	N.S.
Mar-97	N.S.	1.040	N.S.	N.S.
Jun-97	N.S.	1.030	N.S.	N.S.
Sep-97	N.S.	0.970	N.S.	N.S.
Dec-97	N.S.	1.010	N.S.	N.S.
Feb-98	N.S.	1.080	N.S.	N.S.
May-98	N.S.	1.080	N.S.	N.S.
Aug-98	N.S.	1.050	N.S.	N.S.
Nov-98	0.760	1.210	0.830	1.060
Feb-99	0.670	1.040	0.650	0.300
May-99	0.710	1.140	0.820	0.360
Aug-99	0.720	1.100	0.770	0.220
Nov-99	U	U	U	U
Mar-00	0.77	1.10	0.8	0.36
May-00	0.64	1.10	0.83	U
Aug-00	0.88	1.10	U	0.29
Nov-00	0.75	1.10	0.78	0.46
Feb-01	0.67	0.99	0.72	0.21
May-01	0.85	1.00	0.83	0.27
Aug-01	0.57	1.00	0.77	0.28
Nov-01	0.68	1.10	N.S.	0.21
Mar-02	0.73	1.10	0.76	0.29
May-02	0.75	1.10	0.76	0.33
Jul-02	0.75	1.10	0.77	0.33
Nov-02	0.92	1.10	0.76	0.31
Mar-03	0.72	1.00	0.73	0.3
May-03	0.73	1.00	0.76	0.24
Aug-03	0.81	1.00	0.78	0.26
Nov-03	0.74	1.00	0.74	0.25
Mar-04	0.78	1.00	0.75	0.2

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Fluoride

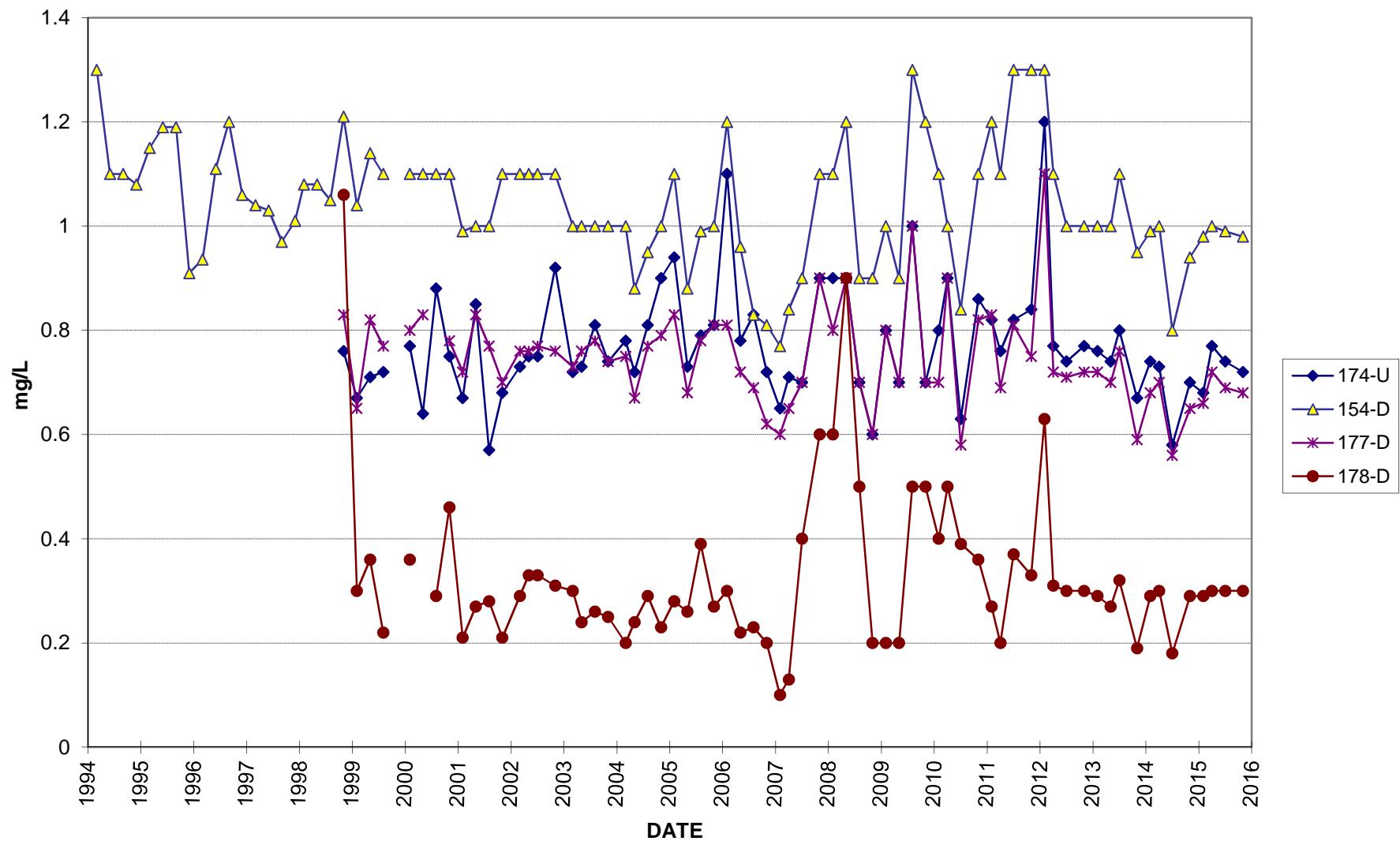
<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
May-04	0.72	0.88	0.67	0.24
Aug-04	0.81	0.95	0.77	0.29
Nov-04	0.90	1.00	0.79	0.23
Feb-05	0.94	1.1	0.83	0.28
May-05	0.73	0.88	0.68	0.26
Aug-05	0.79	0.99	0.78	0.39
Nov-05	0.81	1	0.81	0.27
Feb-06	1.1	1.2	0.81	0.3
May-06	0.78	0.96	0.72	0.22
Aug-06	0.83	0.83	0.69	0.23
Nov-06	0.72	0.81	0.62	0.2
Feb-07	0.65	0.77	0.6	0.1
May-07	0.71	0.84	0.65	0.13
Aug-07	0.7	0.9	0.7	0.4
Nov-07	0.9	1.1	0.9	0.6
Feb-08	0.9	1.1	0.8	0.6
May-08	0.9	1.2	0.9	0.9
Aug-08	0.7	0.9	0.7	0.5
Nov-08	0.6	0.9	0.6	0.2
Feb-09	0.8	1	0.8	0.2
May-09	0.7	0.9	0.7	0.2
Aug-09	1	1.3	1	0.5
Nov-09	0.7	1.2	0.7	0.5
Feb-10	0.8	1.1	0.7	0.4
Apr-10	0.9	1	0.9	0.5
Jul-10	0.63	0.84	0.58	0.39
Nov-10	0.86	1.1	0.82	0.36
Feb-11	0.82	1.2	0.83	0.27
Apr-11	0.76	1.1	0.69	0.2
Jul-11	0.82	1.3	0.81	0.37
Nov-11	0.84	1.3	0.75	0.33
Feb-12	1.2	1.3	1.1	0.63
May-12	0.77	1.1	0.72	0.31
Aug-12	0.74	1	0.71	0.3
Oct-12	0.77	1	0.72	0.3
Feb-13	0.76	1	0.72	0.29
May-13	0.74	1	0.7	0.27
Jul-13	0.8	1.1	0.76	U
Nov-13	0.67	0.95	0.59	0.3
Feb-14	0.74	0.99	0.68	0.29
Apr-14	0.73	1.00	0.70	0.30
Jul-14	0.58	0.80	0.56	0.18
Nov-14	0.70	0.94	0.65	0.29
Feb-15	0.68	0.98	0.66	0.29
May-15	0.77	1.00	0.72	0.30
Jul-15	0.74	0.99	0.69	0.30

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Fluoride				
<u>Date</u> Nov-15	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u> 0.72	<u>Well 154</u> 0.98	<u>Well 177</u> 0.68	<u>Well 178</u> 0.30
Test 2 Results				
	Well 174	Well 154	Well 177	Well 178
Pre-2015 Mean	0.6989	0.9196	0.5409	0.3315
2015 Mean	0.7275	0.9875	0.6875	0.2975
1991-2015 Statistical Summary				
Mean	0.700	0.922	0.538	0.329
Median	0.750	1.040	0.745	0.295
Standard Deviation	0.133	0.220	0.246	0.157
Kurtosis	3.455	-0.145	2.654	8.443
Skewness	1.330	0.068	0.921	2.512
Minimum	0.570	0.770	0.560	0.100
Maximum	1.200	1.300	1.100	1.060
Count	68	92	66	66

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Fluoride in Groundwater (WMU 15)

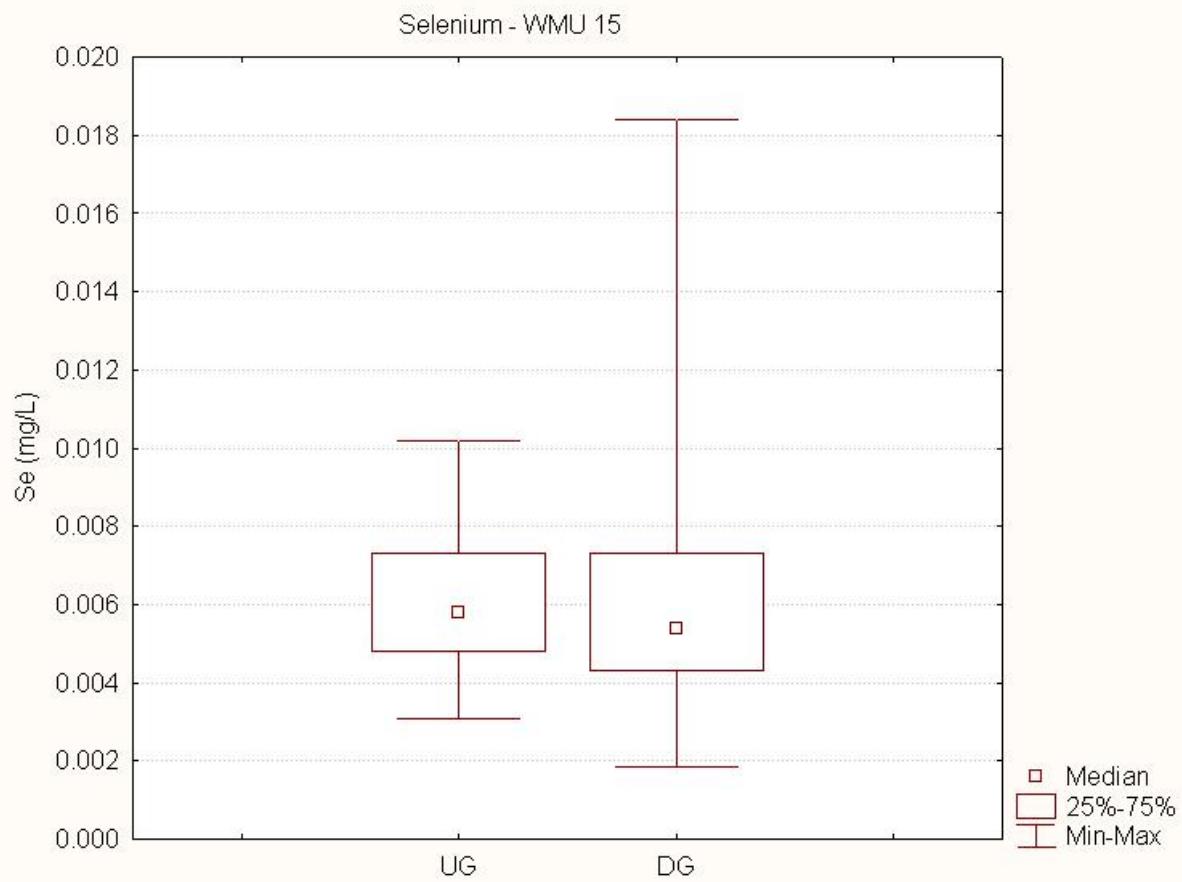


WMU 15 TEST 1 SELENIUM

Mann-Whitney U Test Results

Well Type	N	Median	Rank Sum	U	Z	p
Upgradient	63	0.0058	7624.5	4534.5	1.23	0.22
Downgradient	161	0.0054	17575.5			

Summary: The median selenium concentration of downgradient (DG) wells is not significantly different from the median concentration of upgradient (UG) wells.



TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Selenium

<u>Date</u>	<u>Upgradient Wells</u>		<u>Downgradient Wells</u>	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
Dec-92	N.S.	U	N.S.	N.S.
Mar-93	N.S.	0.0023	N.S.	N.S.
Jun-93	N.S.	U	N.S.	N.S.
Sep-93	N.S.	U	N.S.	N.S.
Dec-93	N.S.	U	N.S.	N.S.
Mar-94	N.S.	U	N.S.	N.S.
Jun-94	N.S.	U	N.S.	N.S.
Sep-94	N.S.	U	N.S.	N.S.
Dec-94	N.S.	U	N.S.	N.S.
Mar-95	N.S.	U	N.S.	N.S.
Jun-95	N.S.	U	N.S.	N.S.
Sep-95	N.S.	0.0184	N.S.	N.S.
Dec-95	N.S.	U	N.S.	N.S.
Mar-96	N.S.	U	N.S.	N.S.
Jun-96	N.S.	U	N.S.	N.S.
Sep-96	N.S.	U	N.S.	N.S.
Dec-96	N.S.	U	N.S.	N.S.
Mar-97	N.S.	0.0042	N.S.	N.S.
Jun-97	N.S.	0.0046	N.S.	N.S.
Sep-97	N.S.	U	N.S.	N.S.
Dec-97	N.S.	0.0047	N.S.	N.S.
Feb-98	N.S.	0.0032	N.S.	N.S.
May-98	N.S.	U	N.S.	N.S.
Aug-98	N.S.	0.0067	N.S.	N.S.
Nov-98	U	U	U	U
Feb-99	0.0074	U	U	0.0051
May-99	U	U	U	U
Aug-99	0.0075	U	0.0051	0.0070
Nov-99	0.0064	U	U	0.0083
Mar-00	0.0067	U	0.0039	0.0099
May-00	0.0031	U	0.0041	0.0109
Aug-00	U	U	0.0058	0.0050
Nov-00	0.0061	U	0.0065	0.0086
Feb-01	0.0045	U	U	0.0091
May-01	0.0057	U	U	0.0075
Aug-01	0.0040	U	U	0.0064
Nov-01	0.0037	U	N.S.	0.0129
Mar-02	0.0043	U	U	0.0061
May-02	0.0056	U	0.0046	0.0084
Jul-02	0.0071	U	0.0056	0.0097
Nov-02	0.0033	U	0.0043	0.0041
Mar-03	U	U	U	U
May-03	0.0096	0.0036	U	U
Aug-03	0.0073	U	0.0077	0.0056
Nov-03	0.0081	U	0.0047	0.0058
Mar-04	0.0091	0.0034	0.0056	0.0099

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Selenium

<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
May-04	0.0090	0.0045	U	0.0099
Aug-04	0.0099	0.0047	0.0061	0.0101
Nov-04	0.0054	U	U	0.0071
Feb-05	0.0071	0.0034	0.0043	0.0087
May-05	0.0070	U	0.0055	0.0108
Aug-05	0.0032	0.0025	0.0048	0.0072
Nov-05	0.0083	0.0039	0.0050	0.0070
Feb-06	0.0068	0.0040	0.0044	0.0099
May-06	0.0089	0.0032	0.0046	0.0119
Aug-06	0.0102	0.0084	0.0108	0.0128
Nov-06	0.0081	0.0046	0.0061	0.0088
Feb-07	0.0038	U	0.0035	0.0045
May-07	0.0071	0.0053	0.0036	0.0114
Aug-07	0.0082	U	0.0037	0.0088
Nov-07	0.0038	0.0048	U	0.0062
Feb-08	0.0072	0.0070	0.0056	0.0080
May-08	0.0046	U	0.0065	0.0095
Aug-08	0.0056	U	U	0.0082
Nov-08	0.0060	0.0058	U	0.0073
Feb-09	0.0059	U	0.0051	0.0052
May-09	0.0055	U	0.0072	0.0066
Aug-09	0.0068	0.0073	0.0071	0.0108
Nov-09	0.0059	0.0055	0.0078	0.0074
Feb-10	0.0058	U	0.0059	0.0104
Apr-10	U	U	U	0.0065
Jul-10	0.0064	U	U	0.0087
Nov-10	0.0064	0.0048	0.0053	0.0069
Feb-11	U	0.0051	0.0089	0.0085
Apr-11	0.0077	0.0082	0.0057	0.0097
Jul-11	0.0080	0.0042	0.0049	0.0073
Nov-11	0.0078	0.0047	0.0078	0.0120
Feb-12	0.0033	0.0019	0.0031	0.0043
May-12	0.0035	0.0020	0.0032	0.0050
Aug-12	0.0048	0.0027	0.0043	0.0064
Oct-12	0.0054	0.0030	0.0043	0.0054
Feb-13	0.0048	0.0029	0.0043	0.0061
May-13	0.0048	0.0030	0.0045	0.0065
Jul-13	0.0049	0.0031	0.0045	0.0061
Nov-13	0.0052	0.0031	0.0045	0.0054
Feb-14	0.0053	0.0031	0.0045	0.0069
Apr-14	0.0049	0.0031	0.0041	0.0056
Jul-14	0.0053	0.0034	0.0049	0.0067
Nov-14	0.0054	0.0034	0.0046	0.0044
Feb-15	0.0050	0.0032	0.0043	0.0057
May-15	0.0049	0.0032	0.0042	0.0060
Jul-15	0.0050	0.0031	0.0045	0.0062

TEST 2
STATISTICS FOR POND 18 CELL A (WMU 15)

Selenium				
<u>Date</u>	Upgradient Wells		Downgradient Wells	
	<u>Well 174</u>	<u>Well 154</u>	<u>Well 177</u>	<u>Well 178</u>
Nov-15	0.0047	<i>0.0029</i>	<i>0.0041</i>	<i>0.0038</i>
Test 2 Results				
	Well 174	Well 154	Well 177	Well 178
Pre-2015 Mean	0.0059	0.0048	0.0067	0.0078
2015 Mean	0.0049	0.0031	0.0043	0.0054
1991-2015 Statistical Summary				
Mean	0.006	0.005	0.007	0.008
Median	0.006	0.004	0.005	0.007
Standard Deviation	0.002	0.002	0.002	0.002
Kurtosis	-0.508	18.078	3.152	-0.569
Skewness	0.369	3.686	1.561	0.446
Minimum	0.003	0.002	0.003	0.004
Maximum	0.013	0.018	0.013	0.013
Count	63	45	51	65

U = Not Detected; #N/A = Value not calculated because of non-detect or not sampled values in data set.
 N.S = Not Sampled, Upgradient well(s) in bold; 2015 data in italics.
 All concentrations in mg/l.

Selenium in Groundwater (WMU 15)

